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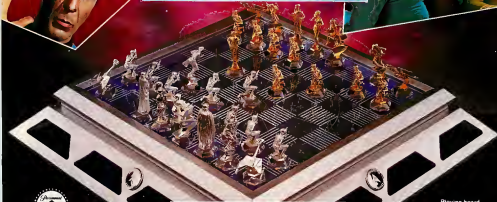
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SCIENCE FICTION AGE

F I C T I O N

28 TOLLING IN THE DREAMTIME

By Harlan Ellison

Our Essay this issue is a special expanded feature from the ever opinionated, controversial and entertaining author, who allows us here to gaze into his most personal dreamsleep. Plus an extra feature "Pet"—a never before published unfinished short story based on a horrible dream. For Ellison, it proved a tale too terrible to tell.

34 DAY OF THE DANCING DINOSAURS

By Arlan Andrews, Sr.

Old Doc Melloh peered into the time machine—and what he saw peering back out made him put a pistol to his head. They were trying to discover what killed the dinosaurs, and now his friend had to figure out how the dinosaurs had killed him.

42 THY KINGDOM COME

By Ben Bova

The world was rotting around them, and Vic loved Jade even though the rules of the street said that she could never be allowed to love him back. But in the brave new world of tomorrow, Vic swore that anything was possible. Part One of a two-part novella.

50 SOMATOYS

By Ray Aldridge

Berner sought refuge from Silvermoon and the pleasures of the flesh on a barren planet. He never dreamed that a demon with a face of liquid metal would track him down to teach him that there was no planet distant enough for his escape.

58 MIRROR, MIRROR ON THE WALL

By Connie Hirsch

Mirror, mirror, on the wall, how did it happen, after all? Neither Queen nor Snow White's won this game, so tell us, mirror, who's to blame?

D E P A R T M E N T S

8 LETTERS

The great science fiction vs. fantasy war continues.

10 EDITORIAL

Harlan Ellison teaches us all how to walk the walk.

12 BOOKS BY KESSEL, BAKER AND MANN

It's a major month for blockbuster fiction as our esteemed experts inform us of a tetralogy, a long-awaited sequel, and a blast from the past brought to you by Wolfe, Pournelle, Niven, Asimov and Allen.

18 MOVIES BY STERANKO AND GARDNER

There's a fire in the sky as UFOs explode across the screen. Plus the best and worst flying saucer flicks of all time.

24 SCIENCE BY ANDREWS, LANDIS AND MINSKY

Will Artificial Intelligence allow us to replace a man? The experts ponder the eternal question.

62 GALLERY BY DIFATE AND REED

A mini-museum of the best of the early gadget artists of the genre, who yesterday painted our tomorrows.

68 COMICS BY DAMIAN KILEY

Now we can all see Ray Bradbury's dinosaur dreams.

74 GAMES BY STEVE WEAVER

Step through the Gateway to live Fred Pohl's classic adventure of the HeeChee.

82 CONTRIBUTORS

COVER: A space traveler from the not-too-distant future is startled by something mysterious. Art by Les Edwards. **ABOVE:** In our Gallery section this issue, Vincent DiFate highlights some of S.F.'s best gadget artists. DiFate is quite qualified to paint gadgets himself, as this painting illustrates. (Story, P. 62.)

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Aliens, Monsters, Dragons & Me

Take a journey into the incredible fantasy film world of legendary special effects wizard Ray Harryhausen. For over 40 years his cinematic wonders and mastery of stop motion animation have enchanted both children and adults. This fascinating video takes a look at his career and features scenes from 13 of the screen's best-loved fantasy films including King Kong, 7th Voyage Of Sinbad, Clash Of The Titans, and others. An inside look at movie magic!

#9695 Approx. 48 minutes \$19.98



Blakes 7

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SCI-Fi

Favorites on Video



The Mind's Eye

Take a spectacular odyssey through time. Your journey begins at the dawn of creation and moves through the rise of man and technology. Truly breathtaking, you will marvel at the special effects and computer animation. It is a feast for your mind and senses. The Mind's Eye joins the imaginations of over 300 of the world's most talented computer animation artists with a powerful, original music soundtrack. This unique collaboration takes you on the incredible voyage into The Mind's Eye.

#6072 40 minutes \$29.98

Beyond The Mind's Eye

This sequel to The Mind's Eye takes us on a surrealistic voyage bridging the gap between reality and imagination. As you travel through the outer reaches of the universe your senses are assaulted with unbelievable images of computer animation. Beyond explores worlds that may exist in alternate dimensions—or only in the minds of the world's leading computer animators. This music of Jan Hammer adds to the magical, mystical images of this video. You won't want to miss this video, it is guaranteed to blow your mind!

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Forty Years Of Sci-Fi Television

Rocky Jones, Space Ranger, Flash Gordon, Superman, Lost In Space and more highlight this fun compilation. Take a look at outcasts from Star Trek's three seasons on television. A must for every true sci-fi fan.

#3765 Approx. 30 minutes

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Flash Gordon Collector's Set

Join Flash Gordon, Dale Arden and Dr. Zarkov as they battle King The Mephisto, the evil Emperor of Mongo, in four original episodes. This beautifully packaged Collector's Edition contains The Purple Death From Outer Space, The Deadly Ray From Mars, The Peril From Planet Mongo and Spaceship To The Unknown.

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Fantastic Planet

This entrancing animated fantasy is about a future earth run by huge blue creatures who keep humans as pets. A group of humans stage a daring revolt to gain their freedom but their masters initiate a series of repressive acts to maintain control. This imaginative film won numerous awards at festivals in both Europe and the United States.

#6073 Approx. 72 minutes \$19.98



The Day The Earth Stood Still

When we first started putting this collection together, this video was on everyone's list as a must to include. Made in 1951 and starring Michael Rennie, Patricia Neal and Hugh Marlowe, this film finds Karel as a visitor from another planet who is sent to warn earthlings of their self-destructive ways.

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Continued on page 20
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THE Science
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Dear Editor:

I enjoyed the second issue of *Science Fiction Age*. If you continue to produce this quality, I am sure it will become one of my favorite magazines.

I would like to comment on the fantasy vs. science fiction issue. I prefer science fiction and would not miss fantasy if it were eliminated. But I don't mind reading a fantasy story occasionally and one fantasy story per issue seems about the right amount. This issue contained two fantasy stories. Lawrence Watt-Evans' "The Frog Wizard" is a clever twist on the traditional fantasy story (wizards, magic, etc.), but Thomas N. Ditsch's "A Family of the Post-Apocalypse" is clearly a fantasy story also. Its background and action are derived from supernatural events and religious mythology. If this isn't fantasy, what is? Both were excellent stories, and if you want to publish this much fantasy, it's your call.

I look forward to the next issue.

Sincerely,
Don Thompson

Your letter pinpoints one of the main difficulties with the whole fantasy/science fiction debate—sometimes even the experts can't agree on which is which!

Dear Editor:

I am very pleased with *Science Fiction Age*. You have managed to do what I have been hoping someone would do for a long time: A slick magazine with stories that appeal to not only the typical S.F. fan, but also stories that require a bit of mental work from the reader, stories with real literary merit.

I hope you don't mind me using the word "Literature." I don't wish to insult you and, have no fear, I will never mention the word in public—especially at a S.F. convention. But I do think your magazine has literary merit.

As you have probably noticed, there seems to be a growing movement away from the word "Literature" not only in S.F. and Fantasy but especially in Horror and even in Mainstream. As if a story that is enjoyable can't possibly be Literary, and a Literary story can't possibly be entertaining.

Sincerely,
Gary Kim Hayes

If we're doing our jobs here, the stories you read will not only be the best science fiction, but also the best fiction, period..

Dear Editor:

Yes and yes and yes, again! Keep publishing fantasy. In both of your first two issues, the fantasy was top-notch. In fact, I took

time out from an incredibly busy evening to read "The Dragonslayer's Sword" to my best friend over the phone, simply because I wanted him to have the joy of it right then.

Keep up the promise of these first two issues.

Sincerely,
Patricia Kelly

Dear Editor:

Just where is the dividing line between "fantasy" and "science fiction"?

Psi powers a fantasy? So were atomic submarines when Jules Verne wrote *20,000 Leagues Under the Sea*. Someone once wrote concerning psi powers: "On any other subject, one tenth the evidence would have convinced me. On this one subject, ten times the evidence will not convince me." Is "magic" fantasy? Asimov once wrote that "Magic is science we cannot yet explain," or words to that effect.

Considering that we know so little about the human brain (and we know even less about the human mind!), let us not lightly dismiss "The Dragonslayer's Sword" as fantasy. For that matter, although the characters were humanoid, no specific indication was given that they were even members of species *homo sapiens*.

A good story is a good story, regardless of the subject matter. So quit complaining about the artificial division between "science fantasy" and "science fiction." Turn on a good background noise tape, relax in your easy chair, adjust your reading lamp, pick up *Science Fiction Age*, and allow the writers to transport you to other worlds. After all, that's why you chose fiction, isn't it?

Sincerely,
Paul P. Prye

Some would argue that faster than light travel is closer to fantasy than unicorns and dragons, because some other planet may contain actual unicorns and dragons, while FTL is impossible according to current science. The fantasy versus SF debate may rage forever. Meanwhile, we'll try to get you the fiction available that can, as you put it, "transport you to other worlds."

Readers—please let us know how we're doing. While we can't publish or respond to every letter, all letters are read and taken into account as we create what we hope is the best S.F. magazine ever! Write to: Letters to the Editor, Science Fiction Age, P.O. Box 369, Damascus, MD 20872.

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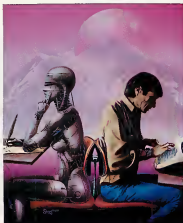
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Learning how to Walk the Walk, and not just Talk the Talk.

Harlan Ellison's
Essay elsewhere in
this issue offers
rare insight into
the psyche of one of
our most celebrated
writers. Illustration
by Barclay Shaw.



HARLAN ELLISON'S STORIES—AS WELL AS HARLAN Ellison, the human being—have had more of an effect on me than those of any other living writer. More of his short stories remain vibrant in my memory than those by anyone else. Other writers have joined the pantheon of those whom I admire and respect, writers who also seem to have had the privilege of being struck from time to time with the muse's lightning that produces works of genius. But it has been Harlan Ellison who has most often, most powerfully, and most deeply affected my life in its relationship not only to science fiction and to my writing, but to the rest of humanity as well.

I remember being a young boy in front of my television set and watching what would become my favorite episode of *The Outer Limits*, "Demon With A Glass Hand," and later watching my favorite episode of *Star Trek*, "The City on the Edge of Forever." I had not realized at the time that they were both going to win awards for Outstanding Dramatic Script from the Writers Guild of America, nor that they were both written by the man who had in so many ways changed my life, Harlan Ellison.

I can recall being a teenager riding home on the subways of New York while reading "Paingod," one of Ellison's many tales of the necessity of sadness and pain, and feeling a little better about the fact that a bit of metaphysical rain was falling in my own life.

I remember being a college freshman and discovering for the first time his collection *Love Ain't Nothing But Sex Misspelled*. I was taught anew from stories

such as "Pretty Maggie Moneyeyes" and others that science fiction could be about more than rayguns and rockets, that it could also illuminate the deepest recesses of the human spirit.

One of the most remarkable aspects about Ellison is how many classic stories are within the body of his work. The number of stories that fall into the category of masterpieces is astounding: "Repent Harlequin!" said the Ticktockman," "Jeffery is Five," "A Boy and His Dog," "I Have No Mouth and I Must Scream," "The Deathbird," "The Beast That Shouted Love at the Heart of the World," and "The Whimper of Whipped Dogs" to name but a handful.

Harlan Ellison's high standards are not limited to the printed page. His moral and ethical principles in the public arena have been educational for me as well. In March 1965, Ellison took part in the Freedom March on Montgomery, Alabama, facing down riot dogs and shotguns.

In 1978, Ellison agreed to be the Guest of Honor at that year's World Science Fiction Convention in Phoenix. However, the rejection of the Equal Rights Amendment by Arizona placed him in a predicament because he had made a firm promise that he would never appear in a state that had turned its back on the ERA. And yet he didn't want to break his word to the organizers of the convention. His answer to this moral dilemma? He did what he had always done, when he advised us all that talking the talk was just not good enough, that we had to learn how to walk the walk as well. To avoid spending a dime in Arizona, he drove a camper to the hotel in which the convention took place, and parked it out front. He brought all his food with him, and didn't even put a coin in the meter.

Whether or not you agree with Ellison's political views, you must admit that he is someone who knows that there are things too important to simply be given lip service, and that one's duty to mankind is not something to be shrugged off. To Ellison, walking that walk is an obligation.

And so I am particularly pleased to be allowed a peek into Ellison's innermost psyche via his essay this issue. He is someone I have respected and admired from a distance for the past 25 years. After you read what he has to say about writing, humanity, speculative fiction and the nature of dreams, perhaps you'll join me in my opinion.

Clarification: The Gallery section of our January issue highlighted James Gurney's *Dinotopia*. We forgot to mention that the illustrations we used are copyright 1992 James Gurney, from the book *Dinotopia*, a registered trademark of the Greenwich Workshop, Inc. For more information on the book and the limited edition prints, contact The Greenwich Workshop, 30 Lindeman Drive, Trumbull, CT 06611, (800) 243-4246.

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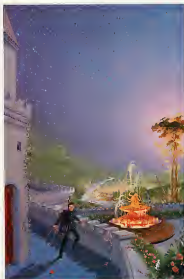
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BOOKS

By John Kessel

Gene Wolfe follows his tetralogy masterpiece with generation starship saga.



Young priest Paterna Silk's quest to save his church takes place inside a huge cylindrical spaceship. Cover art by Richard Bober.

TEN YEARS HAVE PASSED SINCE *THE BOOK OF THE NEW SUN* arrived, hailed by many as Gene Wolfe's masterwork. In that tetralogy Wolfe explored the dangerous territory of science fantasy, S.F. that has the look and feel of fantasy. Too often science fantasy is S.F. by writers too lazy to care about their squishy science, an excuse to mix swords with spaceships and bogus medievalism with magic technology and to inflate short stories to trilogies powered by tired quest clichés. The result is schlock.

In *The Book of the New Sun* Wolfe transformed this dress through his attention to language, the density of his well-reasoned and self-consistent background, his technical mastery of plotting, and his regard for mystery. Every page of *The Book of the New Sun* challenged the reader, who entered into a world where history, character and event went together to create a tapestry of metaphysical implications. In the midst of this labyrinth, even the careful reader could be excused for not always understanding the significance of each incident in the hero Severian's pilgrim's progress.

Nightside the Long Sun, (Tom Doherty Associates, New York, 1993, 336 pp; \$21.95, hardcover), billed as the first volume in a new four-volume work, offers the same virtues and difficulties. It takes place in the far

future, on a mammoth interstellar ship, the dimensions and situation of which are revealed only incidentally. The idea of a generation ship so long on its journey the inhabitants have forgotten their origin and destination is old in S.F., giving rise to memorable stories by A.E. Van Vogt, Robert Heinlein, and Brian Aldiss, among others. But as with many other old ideas he has addressed, Wolfe makes it new.

In the holy city of Viron, Paterna Silk is a young priest of a religion that combines pagan rituals with a quasi-Catholic hierarchy. When his slum church is bought by a powerful man named Blood, he sets out to save it. Over a two-day period Silk confronts the politically devious new owner and sets off to raise the huge sum of money Blood demands to spare the church.

This is as much of the plot as is set forth in this volume, but as usual, Wolfe drops hints throughout that Silk's quest to save the church is only the immediate spur to the action, and that forces and events of much vaster consequence will ultimately play in the story.

Behind this action the setting and history of Paterna Silk's world are of consuming interest. Wolfe's future superficially resembles Renaissance Europe, but through this surface poke pieces of futuristic technology like bones of departed beasts. The citizens of Viron call the ship the "Whorl" and evince little curiosity about or understanding of what lies outside it. They live under the "long sun", a fiery shaft that runs the length of this huge cylindrical spaceship, with a shutter that produces artificial night as the ship rotates. Above them soar the skylands at the opposite side: mountains, lakes, cities, fields. Wolfe tantalizes with incidental details that begin to form a consistent, but so far incomplete, picture.

As with much of Wolfe's longer fiction, the full import of each scene is not always evident as you read. Architecture is being erected around you. This flagstone, that joist, may perhaps be part of some larger structure whose shape will emerge if you hang around long enough and don't get too distracted by the dazzling birdbath set right in front of you. But whether these pieces all fit, and where they fit, is only going to come clear after you've seen all the rest.

Meanwhile, that birdbath is dazzling. On the scene-by-scene level, *Nightside the Long Sun* offers much that's suggestive: superscience weapons from needlers to azoths, "nuns" in Silk's church who are ancient cyborgs, a talking bird that returns from the dead, a hierarchy of gods who speak through inactive television screens (are they uploaded personalities in a computer mainframe?), a likable thief, a working brothel, a wraithlike girl who may be a demon, a powerful man who may be either villain or pawn.

Like Severian, Paterna Silk is a superficially naive hero who gives disturbing evidence that he may perhaps be no hero at all. He reflects back to others their expectations, while from behind glint the elements of another

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character—hints that puzzle even Silk himself, as when he proves to be a skillful Father Brown-style detective, solving a murder at a warehouse. Here is an innocent who turns out to have unexpected talents at lying, theft, sword-play and strategic misdirection, and potential as a lover. As the story progresses, war threatens between this "nightside" half of his personality and the timid, pure-thinking priest.

Still further behind all this lurk shadows of a political conflict. Wolfe offers occasional glimpses into the minds of subsidiary characters of ambiguous import. An underground movement sees Silk as a savior, promoting him as "Calde."

None of these plot threads are tied off in this volume. To appreciate it you'll need to pay careful attention to detail, be patient and have a high tolerance for mystery. You must enjoy the journey as much as the payoff and be willing to defer gratification.

If you can do so, there is much in *Night-side the Long Sun* to engage your attention. And, if Wolfe pays off as he has in earlier books, the story should grow in significance with further volumes, and the ending should come home with haunting import. □

The Gripping Hand, by *Larry Niven and Jerry Pournelle*, Pocket Books, 1993, 402 pp., hardcover, \$22.00.

Despite the 50 years of seeking a better definition of science fiction, the best remains: "Science fiction is what I am pointing at when I say the words science fiction." If you ask the generation of readers like myself, readers who rode into the field in the late '70s on the *Star Wars* wave, "What is science fiction?", we are likely to point at *The Mote in God's Eye* by Larry Niven and Jerry Pournelle.

After a decade plus of reading science fiction, my tastes have broadened and diversified, but deep down, science fiction to me will always be of the future and about exploration. The stories I will always like best will be those with heroic people in spaceships confronting the dangerous (but scientifically possible) unknown.

When asked to review *The Gripping Hand*, I was confident that being the sequel to *Mote*, it would contain all the things I like about science fiction, and I was right. In *Hand*, Niven and Pournelle return to the scene of their greatest success, take us back to one of our favorite fictional worlds, and deliver a science fiction story that (on the whole) is the way we want our science fiction to be.

For those who have not read the first book, the *Mote* is an outback world of the human empire, cut off and unexplored because its warp point is buried in a red giant sun. The *Moties*, the aliens living on the *Mote*, are a race whose life cycle

depends on their unchecked breeding. They begin life as males, become females until they have a child, then they become male again, and so on. If sterilized while male, *Moties* don't become female, but they die young. If they don't become pregnant while they are female, they die in agony.

The effect of these two factors is what the *Moties* call "The Cycles." Civilization on the *Mote* rises until population pressures produce war, famine, and pestilence, and these cause a crash back into barbarism, from which civilization begins to rise again. The *Cycles* have been going on so long that creatures have specially evolved to live in the *Moties'* frequently deserted cities.

The plot of *The Mote in God's Eye* follows the *Moties'* attempts to conceal their nature from the first humans who make contact with them. They hide their warrior caste and lie about the imperatives of their

Niven and Pournelle return to the scene of their greatest success...

breeding cycle. They almost succeed in escaping into the Empire of Man, where its unlimited resources would allow them to overrun humanity in only a few generations. At the last moment, Kevin Renner discovers the *Moties'* deceptions, the humans escape, and the *Moties* are blocked inside their system.

The Gripping Hand is set 25 years after the blockading of the *Mote*, which ends the first book. The action surrounds Horace Bury, the billionaire rebel trader who was co-opted into becoming an imperial agent at the end of *Mote*, and Renner, who is now Bury's pilot and a fellow agent for naval intelligence. The two men have spent the intervening years defending the empire from human threats, but now they uncover evidence that the *Moties* are about to break free of their imprisonment.

The novel is written in four sections. The first, and best, is a mystery story which

BOOKS TO WATCH FOR

The Woman in Red, by *Pat Cadigan* (Mark V. Ziesing) Cadigan's fiction, deftly and loudly like the best rock and roll, takes chances that few others will dare. Watch as the godmother of cyberpunk gives us another glimpse into her stainless steel soul.

Elvissey, by *Jack Womack* (TOR) Womack delivers yet another bizarre brew. In this tale, a time-traveling couple must kidnap the young Elvis before fame (and jelly donuts) have found him, so that they can bring him to the future for...but that would be telling! Find out for yourself.

Flight Into Fear, by *Kenneth Robeson* (Bantam) Before there was a Man of Steel, there was Doc Savage, the Man of Bronze. This volume, a collaboration between Will Murray and the late Lester Dent, the latter of whom wrote the majority of Doc's adventures, celebrates the 60th anniversary of the pioneering pulp hero.

Aliens At My Homework, by *Bruce Coville* (Pocket Minstrel) While other S.F. authors have been busy elsewhere, Coville seems to have cornered the teen market. But whatever his genre is supposed to be called—"Juvenile," "young adult," "YA,"—don't let the marketing fool you. This is funny and worth finding.

The Star Trek Compendium (Revised), by *Allan Asherman* (Pocket) At last you can stop haunting used book stores in vain, hoping to snag a copy of the original edition. The best of the *Trek*

reference books is back in print once more, bigger, even better, and bringing us into the '90s.

Witches Abroad, by *Terry Pratchett* (Penguin Roc) Pratchett's books are painful to read, because it hurts to laugh that much. Beware—if read in public, it may cause strange looks from people who wonder why you can't stop giggling.

Transients and Other Strange Travellers, by *Darrell Schweitzer* (W. Paul Ganley) By now, Schweitzer has published enough short fiction for a dozen volumes like this. Here in one place is collected the cream of his crop.

Dinosaur Planet, by *Stephen Leigh* (Avalon) This book is brought to you by Ray Bradbury, certainly a name to trust when it comes to dinosaurs. 1993 is the year of the dinosaur, and this volume is a welcome addition.

Flandry, by *Paul Anderson* (Baen) Dominic Flandry, Terran agent, is one of the classic heroes of science fiction. Anderson has been bringing us his adventures for over 40 years, and this omnibus volume brings those stories together at last.

Taking Flight, by *Lawrence Watt-Evans* (Del Ray) The fifth fantasy novel set in the magical world of Ethshar. You liked Watt-Evans's humorous fantasy story "The Frog Wizard" in our last issue, didn't you? Buy it both because he's proven himself to you and for the beautiful Tim Hildebrandt cover as well.

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follows Bay and Renner's attempts to establish whether the people on the Mormon colony of Maxcroy's Purchase are in contact with the Motie. The second section takes Bay and Renner to the imperial capital on Sparta, where they wage a campaign of politics and influence for permission to visit the blockade fleet. The third section takes place in the New Caledonia system and explores the impending breakout of the Moties. The last, and least successful, section of the book details the diplomacy and battles which decide the final fate of the Motie and humanity.

Along the way, *Hand* contains all that you expect from a Niven and Pournelle novel. There is a large cast of characters from every strata of human society and, once off Maxcroy's Purchase, the story is told from several perspectives. Conspicuously absent though, is a Motie point of view character. In *Note*, the narrative often shifted to the Moties' side so that the reader understood the menace long before the book's characters did. Seeing the humans through alien eyes made the Moties (particularly Charlie and Jock) more real and gave you an emotional stake in their fate. *Hand* has only a few sections from the Moties' point of view, and we never learn enough in them for the Moties to seem as real to us as the humans.

The key to the resolution of this new round of conflict between humanity and the Moties is Rod and Sally Blaine's discovery of a form of birth control for Moties that does not shorten their life span. Birth control alone, however, is not the answer to the the Moties' problems because they are essentially a tribal society. In the past, when one tribe has practiced birth control, it has been overrun by those tribes which didn't. If the Cycles are to be broken, the Moties need not only birth control, but a new society as well.

When Niven returned to the Ring World in *Ring World Engineers*, he departed from the adventure story format of the first book to take the readers on a tour of the World itself. With *Note* and *Hand* this pattern is reversed. In *Hand*, Niven and Pournelle are more concerned with showing the Moties' fate than they are with showing off the Motie and the Empire of Man, but there are still striking backdrops, particularly the twin cities of Sparta and Pandemonium.

Sparta is the capital of the Empire of Man, but it is not Tranter. It is a water world where good government and well-placed tax breaks have kept her mountains and farms (land and water) intact. Sparta is crowded but comfortable and livable. Pandemonium is a microcosm of the Motie itself, a nightmare warren in space, constructed without plan or sanity by renegade watchmakers, the technologically literate animal servants of the Motie engineers. The parallel is clear enough: will the Moties accept the good government of the man,

or will they continue in the Cycles of unchecked growth and death?

The last section of the book is where that question is answered. Unfortunately, the action takes the form of a running space battle which consumes the final 100 pages of the book. As Joyce Trujillo, the investigative reporter who is traveling with Bay and Renner, says, "I'd always heard that if you weren't so terrified, space battles would be boring. I never believed it till now." Perhaps because the Moties (particularly their warriors) remain so faceless, the terror of the final battle never came through for me. I found myself reading to see how the book would arrive at the ending, rather than reading to see what the ending would be.

Jerry Pournelle says that there are no plans for a third book in this series. This is a shame because, like *Lucifer's Hammer* and *Footfall*, *The Gripping Hand* is a novel that shows the events which will result in a transformed society. *Hand's* epilogue hints at what the universe will now become, but I for one would like to see what that new society will hold.

Eric T. Baker

Isaac Asimov's *Caliban*, by Roger MacBride Allen, Ace Books, 1993, 320 pages, trade paperback, \$9.95.

"And the torch shall be passed to a new generation," it once was said, a thought that is much in people's minds during this inaugural year. We in science fiction pay attention to the passing of other mantles, ones literary instead of political. With the loss last year of Isaac Asimov, one of the Grandmasters of science fiction and the creator of the Three Laws of Robotics, the question that comes to mind is, *What will become of the robots?*

The answer to that question is about to arrive in bookstores in the form of a new novel that is the result of a unique collaboration between Asimov and Roger MacBride Allen, best known for the novel *The Ring of Charon*. *Caliban* is a novel that dares to question the basic tenet of Asimov's ethical laws for robots, challenging their existence, while at the same time being very much in the spirit of the Good Doctor.

The Three Laws of Robotics are burned into the positronic brains that give all Asimovian robots their intelligence and scruples. Many of us have had these laws memorized since we were teenagers. One, a robot may not injure a human being, or through inaction, allow a human being to come to harm. Two, a robot must obey the orders given it by human beings except where such orders would conflict with the third law. And three, a robot must protect its own existence as long as such protection does not conflict with the first or second law. These are the laws Asimov created over 50 years ago, laws which remained unbroken till this day.

But what if a robot could be created without the limitations of the Three Laws? What then? Asimov and Allen discussed this concept in 1960.

"Isaac and I met over breakfast at the Mayflower Hotel in New York," said Allen, in an interview with *Science Fiction Age*. "As you can imagine, I was very nervous, and very overprepared. I had done up all sorts of documents and queries to prepare for the meeting, but it was much less nerve-racking than I expected. I was prepared for Isaac to be very protective of his universe, and I was most hesitant to put forward my somewhat heretical ideas, but he could not have been more gracious. He listened to me, and told me it all sounded fine to him."

"There were a few ideas floated—basically, a mystery concerning an attack on a scientist, with an experimental robot possessing a modified set of the Three Laws as the suspect. I moved out from the starting point and changed a lot of the original concept. I got Isaac's blessing to play with the Three Laws much more than was first intended. If modified laws, I wondered, why not no laws?"

Caliban takes place on the planet Inferno, in a future split between the Spacers, who believe that robots are their birthright, the willing slaves that make their sheltered lives possible and comfortable, and the Settlers, who believe that robots make people lazy and unwilling to take risks, and so are determined to survive without the aid of artificially intelligent machines. Into this world comes Caliban, the creation of robotics scientist Fredda Leving, who uses the invention of a new *gravitronic* brain to design a robot without knowledge of the Three Laws, something akin to sacrifice to the Spacers. When Leving is savagely attacked, Caliban is a prime suspect.

Of the detailed workings of the plot itself, it is best that no more be said, as this is a mystery as well as a science fiction novel in the best tradition of Asimov's own genre-crossing novels. Allen has done a marvelous job of providing us with the flavor of Asimov here, for the plot resonates with echoes of Asimov specialties, the long philosophical discussions of the philosophy of things robotic, for example, as well as likeable, intelligent and competent characters. In reading *Caliban*, I was constantly reminded of why I liked what I liked about other Asimov works. Allen explained that Asimov was amazingly easy to work with, for a writer who changed the shape of science fiction:

"Isaac was (and is) a giant in the field, but he was also a very kindly man. He put me at my ease very quickly. I think I was more nervous about working with his universe—and making some terrible mistake—than I was about Isaac."

Continued on page 80

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MOVIES

By Jim Steranko

Fire in the Sky attempts to explain Travis Walton's bizarre UFO encounter.



D.R. Sweeney stars as Travis Walton, whose claim of abduction by a UFO in 1975 is the basis for Paramount Pictures' *Fire in the Sky*.

EIGHTEEN YEARS AGO, THE SMALL COMMUNITY OF Snowflake, Arizona was rocked when a group of young loggers reported to police the bizarre disappearance of one of their co-workers. Their claim that an alien craft had abducted logger Travis Walton was met with suspicion, contempt, and ultimately, a homicide charge. When he enigmatically reappeared five days later, the woodsman was accused of engineering a fantastic hoax—and became the focus of international speculation and ridicule.

The mystery is still unresolved, but Paramount Pictures will take a stab at explaining this bizarre enigma with *Fire in the Sky*, set for a March 1993 release.

"I was in high school when I first heard of Travis Walton's UFO encounter," said Tracy Torme, the screenwriter-coproducer of this big budget UFO thriller. "The newspapers featured the story for five days, and I learned more about it from time to time, but it wasn't until 1985 that I became personally involved with the incident by deciding to make a serious UFO picture.

"Coincidentally, I looked Walton up in the Arizona directory almost 10 years to the day after the incident occurred. Later, I discovered he had had no phone for the previous decade in order to block all inquiries

about the experience—and had one installed just two days before my call. Good karma!

"He was very gun-shy from being abused in the press, so I had to visit him three or four times. He's about 38 years old now, very bright, introspective, religious, but marked forever by the incident. Imagine going home from work one night and turning up five days later, not remembering anything about what happened! He was accused of being a drug addict, creating a conspiracy, horrible things. Local kids still sing a version of ring-around-the-rosy about Travis and his flying saucer. His life became a living nightmare, and that's what the film is about."

Fire in the Sky has dominated Torme's life for the past eight years. "I went in like an investigator and grilled the people involved in the controversy to be sure the story wasn't a hoax. I'm convinced it happened just as they told it."

Torme—who previously functioned as story editor and creative consultant for *Star Trek: The Next Generation* as well as authored six of the series' episodes (including the Peabody Award-winning *The Big Goodbye*) and the cathode UFO miniseries *Intruders*—began writing *Fire* in 1986.

"My original concept was to treat the story in *Rashomon* style with conflicting viewpoints: Was it murder, real, or a hoax? I felt it should be kept controversial and decided to start the story after the incident and to discover what happened through flashbacks. That way, special effects could support the movie's climax."

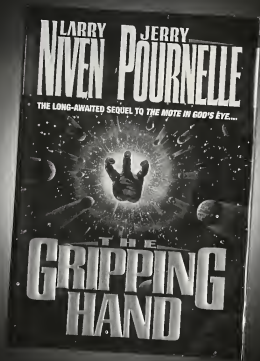
"As a closet skywatcher, I believe only a very small percentage of incidents reported are real," says Torme, who also produced the TV special *UFO Cover-Up Live*. "The mistake that most people, including UFO proponents, make involves the conspiracy angle. They believe that the Air Force, Naval Intelligence, the Pentagon, and the United Nations are harboring the world's greatest untold secret. Nobody can keep a lid on that kind of secret for so long.

"Take the Roswell crash. My personal scenario is that pieces of something were found in 1947—maybe even some bodies—and that the president brought in a very small team of specialists to analyze the material. He knew how big the story was and made the decision to classify it as a "black project" until they figured out what it was, who made it, and why. A few years later, they told the president that they were sure it wasn't built in Cleveland, but that was all they knew. He probably suggested they shouldn't return until they figured it out, no matter who was in office.

"Forty-five years later that group may still be ongoing, and the big secret is that there is no secret—they don't know much more now than when they started!

"Now, when journalists like Mike Wallace or Jack Anderson do a UFO story, they ask a general at the Pentagon about the saucer in the basement. The officer looks them right in the eye and says, 'There's

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nothing to it; that's the truth!" because, as far as he knows, there is no official government UFO study. The general is being honest, and the journalists believe him.

"In the meantime, my hypothetical group continues to quietly study the phenomena and successfully create a smokescreen by releasing sensational misinformation to the *National Enquirer* that makes the situation nothing more than a silly subject. Meanwhile, the Carl Sagens of the world are spending fortunes on radio telescopes listening for whispers from the stars, when there are things landing right in their own backyards.

"Personally, I think that UFOs are extraterrestrial and that they could originate from anywhere. The aliens' agenda is long-term, and they seem to be doing genetic experimentation on humans—which accounts for the abduction cases."

Turner, whose credits also include writing stints with *SCTV* and *Saturday Night Live*, came close to making several deals for the project over the next five years. None materialized until director Robert Lieberman and Paramount Pictures connected with the project in 1991.

To guarantee *Fire's* fx quality, the studio recommended top production designer Nilo Rodis, whose concepts have supercharged such epics as *Raiders of the Lost Ark*, *The Empire Strikes Back*, and *Star Trek III, V, and VI*. Beginning in March 1992, the award-winning artist, who also functions as a coproducer on the film, dedicated his creative energy to the intense encounter sequence that climaxes the drama.

"I knew Rob would have problems with it because of how it had to be lensed," Rodis says. "He shot principle photography for 42 days and had another 24 scheduled for fx, which had to be shot at live-action pace. Fx are complicated; sometimes one shot takes an entire day, and the film wouldn't survive at that pace. There's only one company that works fast enough: Industrial Light & Magic.

"That choice led to other problems. For example, when Travis awakes in the ship, the script had him in a vast, silo-like chamber that was virtually bottomless. ILM has only one soundstage, and it wasn't large enough. We could have matted the silo in or created it by computer animation, but we only had a \$4-million budget.

"That seemed to indicate the fx work had to be done primarily in camera, without postproduction work. We needed a very practical set that allowed high and low angles, reverses, everything. Hanging miniatures were out of the question because they take forever. Space and size were serious limitations.

"When Rob and I met in the ILM parking lot in San Francisco, he looked around and didn't see any soundstages. He was stunned. He grabbed my arm and said, 'Exactly what did you have in mind? You



Investigators Frank Walters (James Garner) confronts logger Mike Rogers (Robert Patrick) about the disappearance of Travis Walton.

know I shoot long lenses!" I assured him that shooting on Los Angeles soundstages would have created even more problems for us, and I wasn't kidding.

"Ironically, Rob had helped me choose ILM when he said Travis awakens in zero gravity. That requires a flying rig, and the best flyer in the business, David Ferren, works at ILM. I knew then that an L.A. fx house was out of the question."

Production designer Larry (Good Morning, Vietnam) Bennett, who previously collaborated with the director on the TV series

Gabriel's Fire, solved the space problem with a simple but ingenious set design that accommodated a flying rig and crane, as well as eliminated additional matte work or process shots. (The finished film uses only three optical effects.)

Measuring approximately 45'x60', the spaceship interior allowed flexible cinematography, except for the silo effect, which is only suggested in certain angles. Although a miniature was built to create an "infinity shot," the director considered it distracting and aborted it.

WATCH THE SKIES!

The flying saucer, along with the giant radioactive monster, were the two great science fiction film fads of the '50s. According to some experts, each responded to a basic fear of the American populace. The giant monsters were a reaction to the fear of atomic weapons. Flying saucers substituted aliens for that other unfathomable enemy of the '50s, the Communist Bloc.

During the late '70s and early '80s, filmmakers such as George Lucas and Stephen Spielberg reinvented many of the fantastic themes of Hollywood's past. These later films boast state-of-the-art special effects that frequently substitute for plot.

Here then are our picks of the best and worst UFO films of all time:

THE BEST

THE DAY THE EARTH STOOD STILL (1951). Michael Rennie lands his UFO in Washington with a message for warring mankind. Stop the fighting, or there will be repercussions from the stars! Directed by Robert Wise, with Gort the Robot (one

cool and dangerous dude), this was one of the best Big Issue S.F. films of the '50s. Klattu, Barada, Niktay.



A lobby card from the 1951 film.

CLOSE ENCOUNTERS OF THE THIRD KIND (1977). Okay, so the plot is a little dumb, even in the re-edited "Special Edition" that director Stephen Spielberg put together a couple of years after the film's initial release. But the special effects really are wonderful, as flying saucers hover and whiz and play a merry tune for mankind.

The largest interior required three weeks to construct. Smaller, pre-fab sets were prepped outside the studio, then moved into the facility's smaller units, which have ceilings no higher than 15 feet. Shooting commenced immediately.

Working the confining areas for maximum visual impact, Lieberman switched from his standard 300mm long lenses to 50mm wide-angle lenses for increased motion, depth, and clarity.

Concerned that the film would be erroneously perceived as an "exercise" rather than a realistic drama, Lieberman was determined to eliminate excessive visuals.

"Originally there was a shot behind the opening credits that began with a small, eerie light very far away in a wooded area," Rodis recalls. "You couldn't tell if it was on the ground or floating in the air. Gradually, it begins to speed up and move toward us. The audience thinks it's a saucer, but when it slows by, it's only a truck."

"Rob cut it because he felt it would lead the audience to believe they were watching an fx movie. It would have been a mistake to start with a big shot in the opening scene, then continue on with a small movie. We took a much more low-key approach."

"The same thing happened when a beam from the UFO hits Travis. As written, the scene had lightning bolts and process fx, with him being tossed out of the beam,

Fire in the Sky has dominated Torme's life for eight years.

standard way to do it would be to blow the audience away, but Rob suggested a more subtle treatment. Instead of making them say, 'Wow!', he wanted them to say, 'What's happening to Travis?'

"So, we withheld showing the ship until the last possible moment, with a dolly shot from behind Travis's shoulder. It should have worked, but Rob said it was giving the audience the wrong signal. He'd rather have had the camera come in tight on Travis's face—to maximize his response—then show the ship. His goal was to make a film about two men and their broken friendship, and he really stuck to it."

Lieberman took a similar tack with the aliens, although after an abrupt about-face. When Rodis began designing the creatures, the director asked that they have a non-human appearance to bypass the prosthetic-suit syndrome, such as in the Predator and Alien thrillers. Sketching various concepts, Rodis developed a "dog-leg" design that imaginatively satisfied the requirement.

A maquette was made at ILM to three-dimensionalize the artist's vision, but

smoking like a hot coal. During the first read, it sounded good, but after talking with Rob, it became clear the scene was overblown with fx.

"In fact, just last week he phoned about the 'encounter' scene, where the loggers first see the alien ship. The

Continued on page 82



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EARTH VS. THE FLYING SAUCERS (1956). Animator Ray Harryhausen brings a whole fleet of flying saucers to attack Washington and destroy famous monuments! We, of course, are forced to shoot them down with super-scientific weapons! That's how we get rid of those godless Commies—er—aliens! A tight script and solid special effects let this one hover above the flying saucer pack.

UFORIA (1980). This is a charming little movie about the "UFO Subculture," with Cindy Williams as a grocery store clerk who believes she has been contacted by aliens. Also starring Fred Ward and Harry Dean Stanton, this totally unpredictable film is on videotape, and well worth seeking out.

HONORABLE MENTION (Because the UFOs are not so much seen as implied): William Cameron Menzies' original **INVADERS FROM MARS** (1953).

THE WORST

PLAN NINE FROM OUTER SPACE (1959). Here's a movie that is so bad, I really don't have to list the rest. Directed by the now-famous Ed Wood Jr., and featuring (for about a minute) Bela Lugosi and (for the rest of the film) a substitute Lugosi (Lugosi had passed away) who

looks absolutely nothing like Bela. See flying saucers, er, pie plates! See zombie Tor Johnson unable to get out of his grave! Near mind-numbing dialogue as the aliens pontificate on and on and on! Really bad and really enjoyable.

MARS NEEDS WOMEN (1968). There actually are a whole bunch of bad aliens invade-Earth films. This particular gem features ex-Mouseketeer Tommy Kirk as the leader of the invading band. Their goal, to kidnap teenage girls! Directed by the inept Larry Buchanan.

TEENAGERS FROM OUTER SPACE (1959). Cheap, cheap, cheap. Flying saucer effects are close to Ed Wood quality, and the monster (shown only as a shadow) looks like a giant lobster.

THE MAN FROM PLANET X (1951). Some folks really like this cult film from Edgar G. Ulmer, but I'm not one of them. A spaceship lands in Scotland, where it's really atmospheric (in other words, there's a lot of fog.) People hang around the saucer for about 45 minutes or so. Then the alien shows up, except you can barely see him, because of the fog and the extremely low budget. Made for approximately the price of a Happy Meal. Odd and dull.

Craig Shaw Gardner



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By Dune Spotts

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Will a machine's artificial intelligence allow us to replace a man?



In Arthur Clarke's 2001: A Space Odyssey, artificially intelligent and self-aware computer HAL is disconnected after plotting against its human companions. Photo from the 1968 Stanley Kubrick film.

PEOPLE HAVE DREAMED OF INTELLIGENT MACHINES for far longer than science fiction has existed as a genre, and they have pondered the same eternal questions: Is it possible to make a machine that will think in the same way as a human being? What would it take to build such a machine? And if it were possible to build such a machine, what would you have once you were done? We linked together three top author-scientists, Marvin Minsky, Geoffrey A. Landis, and Arlan Andrews, Sr., via a computer hookup for a discussion of the theory and science of what has come to be known as Artificial Intelligence, or AI for short.

Marvin Minsky is the Artificial Intelligence guru who is to AI what Carl Sagan is to outer space. Dr. Minsky wrote one of the seminal works on AI, *The Society of the Mind* as well as the recent novel *The Turing Option* with famed SF author Harry Harrison, which explored the effects of AI on humanity. Dr. Minsky currently holds the Mitsubishi chair at MIT.

Geoffrey A. Landis works for Sverdrup Technology at the NASA Lewis Research Center and was named by *Ad Astra* magazine as a "cutting edge" theorist in their special issue on the hundred "stars" of space. A Hugo and Nebula award winning writer, Dr. Landis has also organized two NASA conferences on advanced concepts, the second of which, "Vision-21: Interdisciplinary Science and Engineering in the Era of Cyberspace," will be devoted to the implications of advanced computing, robotics and artificial intelligence for innovative space exploration concepts.

Arlan Andrews, Sr. works at the White House Science Office. He will be returning to New Mexico

this spring to take a new position in advanced manufacturing technologies. He has been publishing science fiction for thirteen years.

SF AGE: Let us begin our discussion by attempting to define Artificial Intelligence, or AI.

MINSKY: AI is making machines do things you would call intelligent if a person did them. Like, for example, understand a children's story.

ANDREWS: Does the AI reside in lines of code or in the physical embodiment of the machine?

MINSKY: The AI resides in the amazement of the person watching the AI machine. In other words, "intelligence" is not a property of a single machine, but a relation between two entities. "A" seems intelligent to "B" if "B" admires "A's" performance.

SF AGE: In science fiction stories, writers posit that AI engenders both amazement and fear.

MINSKY: So do "intelligent people," in the feelings of the less intelligent.

LANDIS: You are, in essence, separating "artificial intelligence" from "machine awareness." A self-aware machine would be aware that it was intelligent. This, of course, is still a bit in the future.

SF AGE: So what is the current state of AI?

MINSKY: AI is in a funny state because we can make machines do all sorts of impressive "expert" things, but we can't yet get them to do most of the things a four-year-old can do.

LANDIS: But then, four-year-olds have gone through millions of years of evolution to be able to do what they do well.

MINSKY: I think we're missing one vital ingredient: a big "Common Sense Knowledge Base" so the machine can understand things that we understand.

ANDREWS: "Common sense" meaning practical knowledge as we use it today, or in the original meaning of the term, integrating all sensory inputs?

MINSKY: Common sense in the sense of "the things that most children learn." Like, you can pull things with a string, but not push them. Basic geometry of space. You must open a box before you put things in it. If you tell Mary something she won't know it unless she hears you. It would be great if we could get the machine to learn that stuff from experience. But we don't know enough about learning machines yet.

SF AGE: Is anything that passes the Turing test an AI? For example, you may all be constructs here as I receive input on my computer.

LANDIS: A brief digression to explain the Turing test. Turing proposed that if a machine could simulate intelligence well enough to conduct a conversation on a teletype machine with a person without that person being able to know if the thing at the end of the line was a human or a machine, then it possesses intelligence.

ANDREWS: Turing asked the wrong question. Dr. Minsky's definition of AI is better—it takes one intelligence to recognize another.

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MINSKY: Well, Turing actually agreed—in that he did not think defining intelligence intrinsically was a good idea, but instead, to ask, what would make one person say that another thing appeared to be “thinking”

ANDREWS: I'd like to ask about the state of AI today. I see four categories in which the concept has developed useful products—LISP, expert systems, Fuzzy Logic, and Neural networks. If humans are “meat machines,” then by definition thinking machines can be built.

MINSKY: I would think of AI research as having developed a good number of useful “representations of knowledge” of various sorts. Semantic Networks, for example, give us good ways to represent networks of relationships between parts or aspects of something. Neural nets give us ways of representing strengths of such connections, but don't do well at describing the ingredients. Rule based systems give us good ways of representing constraints, etc., among things. Programs in LISP, etc. are good ways to represent procedures. My thinking is that no one has done much about fusing all these different things together. I suspect that different parts of the brain do this, and we have to find out how. I think we have many good ingredients.

LANDIS: By thinking about what we would have to do to make a machine think, we begin to understand how we ourselves think.

MINSKY: The critical bottlenecks are two. One, we need to understand the Commonsense Knowledge base. And two, we need the art of building “multiple representations.”

LANDIS: Which is?

MINSKY: Well, in *The Society of Mind* I proposed a way to understand what is a “chair.” It needs two parts at least. First, a description of the physical thing. Second, an explanation of how each physical part helps a person to sit on it!

ANDREWS: In my science fiction stories over the years, I have preferred the term “DI.” That is, “Developing Intelligence,” which is neutral, has no judgmental or philosophical connotations—and applies to everything.

MINSKY: Yes. In Great Britain, they use “MI” for “Machine Intelligence,” often.

ANDREWS: In my story, “The Haphestus Mission,” it applies to a self-referential computer that thinks it is sentient. You never know. In my “Silicon Bouquets” it refers to silicon morons—they are self-aware, but not smart.

MINSKY: I think “sentience” is good. That's the problem with sentience. If it isn't

smart, then I don't see any particular importance, distinctiveness, or even mystery. Arlan has captured precisely what annoys me about those “skeptical” philosophers, who assume that sentience by itself implies all our other virtues.

LANDIS: Sentience refers to sensing, or awareness. A thing can in principle be intelligent, but not sentient; or sentient but not intelligent.

SF AGE: So when we will have perfected AI, what will we have? Will AI have a soul?

MINSKY: Well, then we'll be able, I presume, to down- or up-load ourselves, extend our capabilities, etc.

SF AGE: Will we have a human being? Or something better?

MINSKY: That gets back to the soul. A term invented by people who need an excuse not to try to understand how we work! And AI will be something better, with luck. After all, what are we now but advanced chimpanzees?

LANDIS: The potential capability of downloading oneself into a machine seems to be a particularly exciting potential of AI. Especially a machine that may be able to go places that we ourselves cannot go, or experience size ranges (such as micro) that we cannot.

ANDREWS: According to an article a while back in *Scientific American*, our brains may need some kind of chaos to keep active, to keep cranking out new solutions. Maybe even some irrelevant ones. But does machine thinking have to mimic ours? Can't we hope to achieve a much better design, one that outstrips our limitations?

MINSKY: Arlan is right. The brain is just one evolutionary path. There may well be other, much more efficient and more capable ones. We don't know any yet.

SF AGE: How long will “real” AI take?

LANDIS: It seems to me that in AI there are currently three main ways to “construct” a brain. That is, to approach AI by the algorithmic approach, figuring out how something is done, and then programming it; by the neural net approach, which is to adjust thresholds of cross-connection; and by the pattern matching approach.

ANDREWS: We may chart the genome, but it's only a map, and “the map is not the territory.” We need actual molecules and spatial/chemical relationships. We can't come close yet on a chip. Maybe never.

MINSKY: I think the “algorithmic approach” will eventually lose out. Better is to have a “constraint description language” which you use to describe features of the behavior you want. Then you apply an expert problem solving system, equipped

with vast knowledge, to write the appropriate program—or build the right machine!

LANDIS: The expert problem solving system itself, though, is algorithmic, as I understand problem solving systems.

MINSKY: Yes, the "Colossus" scenario. Build a good enough AI and then get it to work on improving itself.

SF AGE: Will an AI answer questions? Or devise questions?

MINSKY: A machine could ask good questions—as did Lenart's AM program—but it ran dry after awhile, because it didn't know enough to ever get outside of the universe of arithmetic.

ANDREWS: A rudimentary AI (expert system) is at use at your local Mr. Goodwrench shop.

SF AGE: But do you have an AI when it tells you it's time to change the oil? Or do you have an AI when one says, "Hmmm, this car would look better blue?"

LANDIS: Devising questions is easy. Devising intelligent questions is hard.

ANDREWS: The overall problem seems to be one we have in another area of applying intelligence—that of advanced intelligent manufacturing methods. In manufacturing, we can do anything at all, but there is no way to tie it all together in a coherent system all by itself and make it do things *without* us.

MINSKY: To know what is a good color for a car, you might need 100,000 chunks of knowledge about the world and about human preferences. Not particularly huge, so far as I can see—but no one has even started to try to collect such systems.

ANDREWS: We in advanced manufacturing would like a comprehensive AI soon—to tie together the workstations, the flexible machining stations, the microprocessors, machine controllers, etc.—a real practical problem.

LANDIS: Or a machine that can implement that difficult computer command "DWM"—"Do What I Mean."

ANDREWS: The AI your auto mechanic uses has answers to a few dozen questions and is probably as "smart" as the average shadetree mechanic of the 1930's.

MINSKY: Modestly, I think that in *The Society of the Mind*, I assembled a good collection of ideas about how to tie the many needed functions together. But no one has really tried to implement much of that yet.

SF AGE: And why not?

MINSKY: I can't figure it out, actually. My favorite theory is that the AI community—except for a few researchers like Roger Schank—have bad cases of "physics envy." I mean that they are ashamed to put more than one theory into each of their projects, because they have an unrealizable ideal of a simple "unified" explanation of everything. So they end up with almost nothing.

Continued on page 70

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Toiling in the Dreamtime

Harlan Ellison is the most honored, most controversial, as well as most talked about writer of the genre, and arguably one of the finest writers of our time. If his life and works are the stuff of dreams — then what of his dreams themselves? Illustration opposite by Barclay Shaw.

DREAMING AND WRITING ARE ADAM AND EVE OF the same process. Long before one ever writes a story... one *thinks* on the story. You have ideas; and they stay there in your barely conscious mind; and you work them over. You masturbate them like a puppy with a Christmas slipper until—finally—out comes a story. A significant part of that birthing process is informed by the dreaming. So the dreaming and the writing: elements of the same manufacture.

There's nothing I do of a day, from the moment I get up until the moment I go to sleep, that isn't part of the writing. It's all the gathering of information that informs the storytelling. Where else do you get the bits and pieces that you put in to give it verisimilitude? They congeal from what you observe and what you hear and what you read and what you smell and what you see and what you experience. And from memories—the scent of your favorite aunt's perfume from thirty years before, that unexpectedly waits to you from a woman in a movie theater. The cadence of someone's conversation, overheard at the next table in a Chinese restaurant, in which you hear the voice of your first lover from decades ago. Something comes back that you forgot you ever knew. Or something you never thought of before. It is everything. A writer is a walking sponge. Not "I am a camera," because that's much too cold. But a sponge, a vacuum cleaner, a succubus. You just absorb the whole of the world. And the better a writer is, it seems to me, the more of the world he or she draws into the vacuum cleaner. Or absorbs into the sponge. And part of that is the dreaming.

Let me give you an anecdotal example. I'm a storyteller: I make my philosophical points best with little stories.

This happened about four, five years ago. A very bad time for me: too many of my friends were dying. In just under two years, a mere 22 months, I lost 48 close friends or important heroes. One after another, sometimes two and three a week, not a month would pass without someone calling up to tell me, "... Guess who died today...?" and I'd go deeper and deeper into misery and loneliness and depression.

I had to write epitaphs and obits and homages to so many of them; and not just very old friends and suchlike, whom you'd expect to pass away at an advanced age, but kids, and teens, and young adults. Death was all over the landscape. And I got more and more depressed, till I dreaded the ringing of the phone.

One afternoon, well into the middle of this necrology, I was sitting in the back office where my assistant works. I was exhausted, utterly drained. I had to go out to some dumb meeting with a tv producer and I didn't

want to, most fearfully didn't want to. And I wandered into the back office, dragging my ass, to tell my assistant that I was leaving, and I sat down wearily in this extra typing chair she had against the wall, and I said, I'm beat, kiddo... just wiped... I'm so damned tired maybe I'll just catch a nap here for a moment, sitting in this chair... just for a mo... .

And I did. Went right off to sleep, sitting up, my head loling to the side, like a Willy Loman on a red-eye out of O'Hare at three in the morning.

On her desk there was a large lamp with a circular florescent bulb under a magnifying glass for close work. The light was on, and she had turned the gimbal-mounted neck away from her, so it was shining on me, down on my left side, as I sat there, napping. But I wasn't completely asleep. Not *deeply* asleep. In that reverie state, what do they call it, the "alpha state"? In somnolence. But enough asleep to be shallowly dreaming. The waking dream... .

Awake, I was fully dressed; but in this half-cogent state I could see my left side naked. The flesh was revealed. And as I lolled there, seeing myself in the waking-dream, *viewing myself asleep in the chair*, something terrifying happened.

As I sat there watching myself, a mouth opened in my side. It ran laterally down from just under my left nipple to my belt line. A mouth. The skin split like lips, and a great, sharklike mouth opened, and I saw teeth, razored teeth, and there was a deep exhalation of breath from the orifice, like a lost soul heaving a sigh of infinite desperation and loneliness.

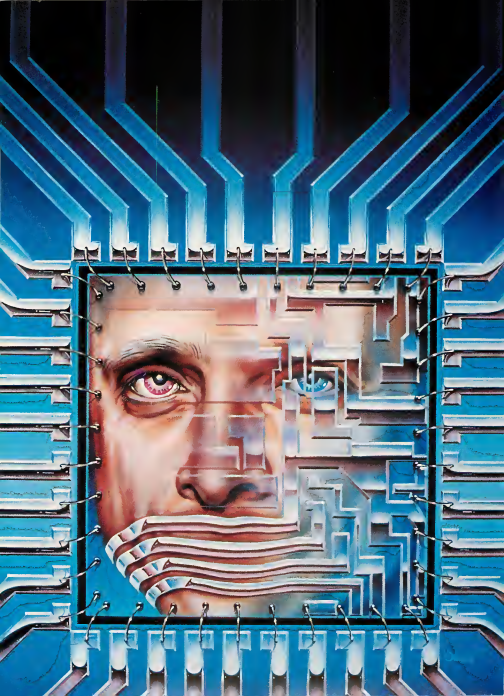
It absolutely unhinged me. I was more terrified than I'd ever been in my life. I woke instantly, and stared down, and the mouth was just closing. It just closed up, and was gone, and for a moment there was the faintest red line, as of a scar decades old, that only manifests itself when you go to the beach and get tanned, and the unremembered white line reappears.

And it paralyzed me with fear. Later that day, unable to get the dream out of my mind, I told myself that my unconscious was trying to tell me something I desperately needed to know. But I wasn't smart enough, or wise enough, or clever enough—on a waking level—to know what the message was. So I sat down that afternoon, after I'd come back from that stupid meeting, and I began writing what I think is one of my very best stories, "The Function of Dream Sleep." It took me two or three days of unbroken writing, sans sleep, sans food, sans anything but work, to complete it. But I knew

it had to be written at once, without hesitation; because that's the sort of secret message the dreamtime sends you that, if you don't act on it at once, without hesitation, as bravely as you can... slips away, and you laugh at the

*"Trivial or impure
dreaming literally rots the
fabric of the future."*

—Lawrence Durrell



dream...and you forget it...and you lose the treasure that was proffered.

As I wrote the story I knew if I completed it, I'd understand what the dream had been trying to tell me. And it did. It told me that to survive the pain of the death of my friends, to expunge all of the angst, all of the anguish, all of the unassimilated sadness of those losses, I had to let the anger go, set it free! And that secret wisdom had manifested itself in the one terrible image. I lived it...and then sat down and wrote it. Dreaming and writing are the Gog and Magog of the creative manufacture. You can read that story in my 1988 collection, *ANGRY CANDY*.

I find, sometimes, that expunging pain through dreams, or otherwise, is not necessarily the best answer. There are times when you want to *sustain* the pain. There are times when pain is valuable. I did a story called "Paingod" in one of my books, and it was about the mythic creature who dispenses pain. He's been doing it from the beginning of time, since the first peal of the Chimes of Eternity, and now he's weary of it. He doesn't want to dispense pain any more, because he doesn't understand it. So he decides to experience it himself. He goes into the persona of one of the people to whom he has dispensed anguish, to feel what his life is like. It's a shattering experience; and he thinks that he doesn't want to do this any more. But when he comes out of it he understands a truth that should not be that hard for people to grasp, but one that they spend most of their lives fighting, which is: *pain is necessary*.

Pain is absolutely essential; because if you didn't have pain, you wouldn't understand joy. Without the opposite of joy, what is there? The opposite of joy is not pain. The opposite of joy is boredom. We spend most of our lives in a state of ennui. We stumble around like people who've been struck in the forehead with a ball-peen hammer. We are tourists in our own lives, visitors in our own existence. We don't live our days. I hear myself saying these things and I say, Take it easy, Ellison: Shirley MacLaine's gonna come drifting down through the ceiling any moment now. Yet I think, in pragmatic terms, it's true. So many people spend so much time trying "not to be hurt" that the coupon for living their lives goes stale-dated.

THERE'S AN ABSOLUTELY EXQUISITE QUOTATION FROM PUSHKIN THAT says: "Better the illusions that exalt us than ten thousand truths."

What you go for in writing fiction is not truth, is not even the mirroring of truth, but *verisimilitude*. Very different. Verisimilitude is the *semblance* of truth. The *appearance* of what is true.

It wasn't that I grew bored with the idea the more I contemplated writing it. Absolutely not. But

there was my name on all the promotional fliers and advertisements, and the kindly Editor calling only every sixteen minutes to inquire, in Ren-like voice, when he might lay eyes on my reminiscences of DANGEROUS VISIONS after a quarter-century; and I began to develop this, well, sort of *tenuousness* in my chest. The idea, well, that was just fine. Really. I cannot begin to tell you my enthusiasm for writing such a memoir. Towering Numbing.

So enthusiastic was I, in fact, that I put all this strain on my right coronary artery, and had to go into Cedars-Sinai for a couple of swell angioplasty procedures. Now, does that tell you how much I wanted to fulfill my obligation to *SF Age*? Actually put myself in the hospital out of a

sense of deep concern that the kindly Editor would have to go to press with his premiere edition sans the promised Ellison essay.

But, as Jerry Pournelle couldn't wait to trumpet when we ran into each other last week, "I saved your ass, Harlan!" The kindly Editor had asked the self-effacing Jerry to quick-like-a-bunny write a fill-in piece. Thus, my ass having been saved, not to mention the fall of Western Civilization As We Know It having been averted due to my not having written an essay when it was announced, I was left with the uplifting choice of just croaking so I didn't have to worry about the kvetching letters from readers demanding to know where their fix of Ellison essay disappeared to (poor things), of

The essence of truth, if you will. Just like dreams. Truth transmogrified. You can take the most fantastic situation and by structuring it logically, sequentially, you can get the reader to suspend his or her disbelief for the duration of time s/he reads the story. Otherwise would we ever believe this boy and this black man run away and go down the Mississippi on a raft? Would we ever believe that "She, who must be obeyed" lived a thousand years? Would we ever believe a man as noble as Jean Valjean could survive such terrible times? So, as writers, we have an obsession with verisimilitude; and we struggle to structure stories in such a way that they make sense. Internally logical.

Dreams don't make sense. When you come away from a dream you have a hodge-podge of images, some of which may be interesting, but the totality is seldom of interest, because it doesn't parse, it doesn't track, it falls apart under the weight of dreamtime illogic. Like a joke badly told, by someone who always forgets the punchline.

The dumbest question anybody ever asked a writer—and they always ask—is, "Where do you get your ideas?" I always give the same answer. I always say, "Schenectady." I say, "Yeah, there's this idea service in Schenectady, see, and I send in twenty-five bucks a week, and every week they send me a fresh six-pack of ideas. Like clockwork." (And there's always some schmuck who comes up and asks for the address.)

The point being: *there is no knowing where ideas come from*. This is a question not even Aristotle could answer, for pity's sake. It is a melding of disparate bits and snatches of input. Part of that gestalt is dreams. What we learn in dreams comes back to us and becomes part of the writing process. Or perhaps, what we purge from dreams, what we exorcise, what we expunge—that's the part that informs the manufacture of dreams.

So, in answer to the question: have I, as a writer, ever gotten any stories from dreams? The answer is, as best as I recall, after more than 1,200 stories over a 37-year career...only twice. Once was a dream that I wrote into a story called "Lonelyache." And after I had written the story, I realized that I had performed inexpensive, cheap, psychiatric therapy on myself. This story was me purging my submerged child's anger at the death of my father.

I loved my father very much. He died when I was fourteen, fifteen years old. I was coming downstairs in our home one Sunday morning in May of 1949, and my dad, who was sitting in his easy chair reading the *Cleveland Plain Dealer*, had a coronary thrombosis and died right in front of me. Nothing we could do about it; no way we could help. I remember this with the

MEMENTO MORI

continue a stunted existence filled with chagrin and guilt as

thick as delta silt.

As those who know me can attest, I strive never to utter the sound mmmorous, nor will I permit an uncivil reply to pass my lips. So I made a good end-run around the problem by ignoring it entirely, and wrote a different essay. On another topic that interested me at least as much as recalling the dates and anecdotes of a 25-year-past literary adventure.

This essay on dreaming, that emerged from an interview with San Francisco editor Naomi Epel (who couldn't afford my price to include it in a book on writers and dreams), is in lieu of the piece on DANGEROUS VISIONS the kindly Editor used as a come-on for subscribers.

Now go away and stop badgering me.

HARLAN ELLISON

clarity of its having just happened. My mother and I carried him to the sofa and we covered him with a crocheted throw that my mother had made. And he was dead; he was gone.

I missed him terribly. I didn't realize, then, how much I missed him, because I was a pretty tough kid. We were the only Jewish family living in this small Ohio town, and I was constantly being beaten up. It had quite an unpleasant history of anti-Semitism and violence, this little town near Cleveland, and I had developed quite a carapace. To survive, I got tough. I never cried at his funeral. Years later, yes; quite a lot; but not then.

Almost every man I know, who has lost his father before coming to maturity, has had the need in some way to stand out in an empty street or field and say, "Dad, look you would've been proud of me, I really turned out okay. I've done good things." The year after my dad died, we moved to Cleveland and I went from a straight-A student to failing everything. I was constantly in trouble. All of this was apparently a submerged, undefined anger at my father for having died, for having "deserted me." Kids think like that, however crazy it might be in *The Real World*.

One night—this was twenty years after the fact—I had a long, involved, incredibly clear dream that became almost the totality of the story "Lonelyache." There's a sequence in the story where the narrator sees himself: he's small, he's a child, and he's lying in the car. I was a very small kid, and so, when we would go on long trips, if the back seat was full, I would lie on the ledge up underneath the back window with a blanket over me and I would sleep. In the dream... I'm in Beverly Hills—so it was a mixture of past and present—and I'm lying in the back window. And there are people running after my car. My father is there.

When I woke, I rushed to the typewriter, and I began furiously writing the story. I took notes so that I wouldn't lose any of this stuff, because it was all ephemeral—fading, becoming illogical, hard to recall, even as I was writing it down. And the longer you stay awake, the less logical it seems. It recedes with a strange Doppler effect like a train passing a fixed point. Nonetheless, I made it as logical a story as I could; which meant adding many traumatic elements not in the dream, to meaten it; but I used every element I could remember from the dream to plot that story. The weirdest part of the process was that I'd had this dream for weeks. It constantly recurred. Again and again, and the funny thing about it was that it never started new, it always picked up where it had stopped. It was a sequential dream. I've done some reading in dream analysis and apparently this is not a common thing. Where it started I don't recall, but there were these endless assassins coming after me. I was never superhuman, I didn't suddenly have a black belt, I wasn't one of the great swordmasters of all time. I was just me, and these guys were really trained assassins (I mean, it was the Cult of Thuggee kind of thing.) They were all very well-dressed in dark suits. Today they'd look like yuppies. You know, sort of Michael Milken clones coming after me. But these guys were really trying to smoke me.

And the fight would go on and on and on in the dreams. How long I was dreaming I don't know, but it seemed to me that for the entire duration of my sleep I was trying to escape. It was just rough and tumble with these guys coming after me. And then hand to hand combat. Guys with straight razors, with ice picks, with cleavers... sharp scary implements. And they knew what they were doing.

In the story, I remember that I described where a knife cuts me in that thin fold of skin between the fingers—what you feel when you get a paper cut—which is surprisingly painful. There was a specificity in all these dreams. A segment would end with me killing the guy, or just as the attack was about to take place,

and then the next dream, which would be the next night, or two nights later, would pick up right at the same place.

This went on for weeks. I got to the point where I just didn't want to go to sleep any more. I stayed up all night. I have a very strange metabolism—I don't drink, and I don't use drugs, I can't even take a No-Doz or aspirin because they knock me slantwise. So to stay awake I was thrown back on my own resources: cold showers, running, exercising, lifting weights, and just working myself into the ground. Finally, I would fall dead asleep... and there would be the dream again, lying doggo, waiting to bush-whack me.

Eventually, after a month or more, I realized that this was one of those cases that has happened a number of times in my life where to work out the problem I have to write a story. I'm not smart enough to know *what* it is I'm going through, but somewhere inside me there's an onboard computer that can assimilate all of this data and make some rational sense of it. So I sat down and started to write the story.

McGrath awoke suddenly, just in time to see a huge mouth filled with small, sharp teeth closing in his side. In an instant it was gone, even as he shook himself awake.

Had he not been staring at the flesh, at the moment his eyes opened from sleep, he would have missed the faintest pink line of closure that remained only another heartbeat, then faded and was gone, leaving no indication the mouth had ever existed; a second—secret—mouth hiding in his skin.

—from "The Function of Dream Sleep"

And by the time I finished, I understood that I was angry at my dad for dying. And that I had never come to grips with it. I'd never even acknowledged it. I didn't even know the feeling existed.

The minute I wrote the story I never had the dreams again. So I knew I had tended to myself properly. I guess. Isn't that the point of therapy, to alleviate the symptoms as you come to understand the root of what caused them? If it is, then I guess the "therapy" was salutary.

One day, years later, when I was reading some of Faulkner's books, I found this line: "No matter what it is a writer is writing about, if the writer is a man, he is writing about the search for his father." It was as if a bomb had gone off in my head! It was a genuine epiphany. I thought, holy shit, yes! Of course! I went back, and I looked at the totality of the stories I had written—there were over a thousand stories at that point—and there must have been *fifty or sixty* that in one way or another were me saying, Papa, where are you? Then I cried.

I hadn't known it, of course. I suppose if I *had* known, I would have perceived it as a weakness in myself until I had come to the awareness of my own volition.

The only problems in writing "Lonelyache" were technical. Because, as I've said... and as anyone who's ever wakened in a cold sweat knows... bits and pieces of the dream don't make sense. For instance, if I'm the narrator of the story, and I'm an adult, how can I be small enough to lie up in that back area of a car? Also, if it's present time in Los Angeles, that kind of car hasn't been made for thirty, forty, fifty years. So how is that to work in logical, translatable narrative? You can't take the dream elements one for one. So the technical question becomes: how the hell do I write this thing so it's a story, not just a jumble of free-floating surreal images? If I, as the conscientious manufacturer of the fiction, hope for even the weakest sort of mimetic quality, then it becomes clear that I have to superimpose a quasi-fantastic structure on the frame of an exhaustively realistic plot-progression.

(A lot of the problem for people who *think* they are writers is that they assume they can work with these kinds of disparate

materials without accrued expertise because the dream-bits have personal meaning. They think that the subjective meaning will be conveyed somehow in the story. Well, it usually isn't.)

The reader is *inhabited*. The reader is a blank slate upon whom I write the story. You, the reader, create the sound, you create the colors, you create the look of the characters. You create their expressions. It's all your own interpretation. A story is a fifty percent creation of my craft and what the reader brings to it.

When I write, I know exactly what I mean when I put it down. I know what those people look like, I know what they're wearing. I know what every item of furniture in the room looks like, even if I don't describe it. But when you read it, you don't have all that. What you've got is what I was able to put down on paper logically, rationally, and with some degree of expertise and poetry. And to that you bring all the missing parts. You add to it. There is a melding. You then form the complete cinematic picture. So for a story like "Lonelyache," where I'm cruising on intuition, operating with diffuse magic elements—because that's what dreams are, you know, an eye of newt, a toe of frog, a little shred of bat skin—I need the cooperation of your understanding of your own life, your own existence. That's why that story had many points in it that match up with an ordinary person's life. Linchpin the dreamstuff to commonplace Real World elements. And in between those pieces are fitted the pieces of the dream. So, technically, that story is a bit of a high-wire act.

THE SECOND DREAM IS ONE THAT I HAD ABOUT TEN, TWELVE YEARS ago. I dreamed a complete story. Logical, perfect in every detail with characterization, scenes, dialogue. How it began, how it ended... all of it was there in detail and color. I woke, and it was absolutely clear in my mind. Well, I got about five pages into it and the story scared the shit out of me; so much that I never finished it. It's still sitting upstairs in my Pending file. It's called "Pet," and if I were to go upstairs and get you those five pages and read them to you they'd scare the shit out of you, too. At least I hope they would. I'd hate to think that I'm the *only* one in need of deep therapy.

It's a horror story.

I dreamed the opening line: "The steaming goblet of bloody meat lying on the hallway carpet had never seen a butcher's

Based on a horrifying dream, here is the opening of a story to be written, a story the author may never write because he finds it too terrifying to tell, by one of our most powerful dreamers, Harlan Ellison.

PET THE STEAMING GOBBET OF BLOODY meat lying on the hallway carpet just outside Trachtenberg's apartment had never seen a butcher's cleaver. It had been ripped raw from a living creature, torn loose by powerful jaws. It had been dropped on Trachtenberg's threshold... touching his apartment door. A smear of teal-colored blood stained the paneling. The carpet was already sopping.

It could not have lain there long: steam rose off of it.

"Oh, Jesus, god," he moaned, leaning against the doorjamb. "No, god, no, not again."

Then the sickly-sweet smell of it rose and once again he had an instant of pleasurable odor before nausea made his throat constrict. He dropped his attaché case and staggered one step over the threshold, forcing his gorge to sink. He was looking down the corridor of the condominium.

And finally saw the beast that was bringing the meat. It was standing at the bend in the corridor. It was watching

cleaver." That's pretty professional stuff to be getting out of a dream! And I know the last line. I know where it goes, and I know what the plot is, but I have to tell you: this story scares the hell out of me. It's full of images that, when I consider them, I think, how the hell did I know that? Why would I dream such a thing? What's that? You want a taste of it? Sure, okay... why not?

Here's a guy who's got some weird kind of crazy beast running around in the hallway of his condo. It's been bringing meat to him and he doesn't know what the hell it's all about. He doesn't know what this creature is, but it's watching him. It knows who he is. There's a linkage between them. Then he goes looking for it down the hall, and it's gone. (Things are always gone in horror stories. That's the totem. The way people in haunted houses always go off alone, like absolute jerks.) But he returns to his apartment... and then comes the mundane aspect of this fantastic situation. (It is the juxtaposition of the absolutely mundane with the bizarre that makes for the essence of good horror fiction, I believe.) He goes into the kitchen and he gets these salad utensils, these stupid, middle class, 1950's plastic hinged salad utensils, and he picks up the meat and takes it to the incinerator and dumps it. Combining those two disparate elements is what makes it even more horrible. At least it is to me. To make the impact of the fictional moment even stronger, just as he's about to lower the incinerator scoop, he inhales and he smells the meat. For just an instant he smells this pungent, revolting meat... and there is pleasure in it. This recurs again in the dream and has significance in the story.

It wasn't until later that I understood—how do I put it delicately? I don't think there's any delicate way—that we all are fascinated by the smell of our own farts. We are all fascinated by the smell of our own shit. We don't like to admit it, but there is an instant... there's an odor... and you kind of take it in... and you live with it for a second... then you realize that you shouldn't be enjoying it... and you close off and say oh, wow, that's awful! Utter defensive revulsion. But there's always an instant when you first smell something when there's a sweetness to it. Just a nanoinstant, and then it becomes repellent. Well, that's what happens to this guy.

That's the second dream. It's a story. It's there, waiting for me to get courageous enough to write it. I'll eventually finish it. There

him. It swayed on its back legs, moving itself restlessly as if undecided. The back legs were those of a hyena, hinged in reverse, and they were short.

It was watching him, the fur along its back and neck bristling. The fur was short and wiry like that on a rat, but the color of maggots, the color of flesh on bodies that have floated to the surface after days in polluted water, the color of disease.

It was watching him, the amber points of its eyes staring straight at him, unblinking. The eyes were slanted sharply above a three-slotted mound that could not be called a nose. Its mouth was open. The hundreds of cilia-thin tentacles circling the moist, red mouth seemed to move as if possessed by a silent hunger that called to small creatures to come within their reach. There were teeth in the mouth, many teeth. There were fangs in the mouth.

It was watching him, the powerful upper body breathing in and out, clearly defined and powerful musculature knotting. Its ears were pointed, lying flat against the sides of the round, fat skull. There were claws on its many-toed feet. The tail lay unmoving on the carpet.

And it watched him. It had brought another gift, like a cat leaving a broken bird at its master's door, and it waited to see Trachtenberg's response. It made no sound, just watched.

Leo Trachtenberg felt the fear that had grown in him since the first gift of meat had been left on the front seat of his car, billow and flower and consume him. It was not, as he had sup-

will come a point where I have to have a story done, and I'll say, well this one's halfway done, and let's get to it. I've got fifty, sixty stories that I've started, that are unfinished, because I just got sidetracked. Something else happened, and I had to go put out the immediate fire, and eventually, if I live long enough, I'll be able to get back and finish them all. Even "Pet."

OFTEN I DON'T FINISH A STORY BECAUSE I'M NOT SMART ENOUGH TO finish it. Something is there that I know I want to write about, but I'm not smart enough to do it. I don't have the insight, or the special knowledge, or the maturity. So I'll put the story away; and years later, suddenly the light bulb will go on over my head and I'll say, Ah, now I know what that chunk of story means. I'll go digging back through the file folders, and I'll find it, and I'll start writing again. Pick it up exactly where I left off, just like that. Bam! And I start to boogie.

MY DREAMS ARE USUALLY UTILITARIAN IN THAT I WILL DREAM ABOUT what I have to do that day. Because I've got Chronic Fatigue Syndrome, my clock is all screwed up. I'll get up at four, five o'clock in the morning—particularly if I've got work and I haven't been doing it—I'll get up and make my coffee and wander around, clean up the house and do whatever needs to be done. Susan and I live alone so we share the housework and all. She's up by 8:00 (at the latest), but I've already been up for three hours working. And she'll say to me, you were writing last night. Moaning I was twitching and thrashing in my sleep, festooning myself upon her as she lay there supine, praying that I would settle down.

I'll be dreaming I'm doing the work. It's just wish fulfillment. I'm finishing up all the projects that I don't have the energy to do during the day. So that I can be free. So that I can write something new. So that I can go on picnics. So that I can go to a goddamn movie. So that Susan and I can take a vacation somewhere, which I never have. Or, all of a sudden, I have a magic lamp—in my dream—and I rub it and it gets all my projects finished for me. Where I got the lamp I don't know, but I've got the lamp and the genie says you've got ten projects to be finished. Ten projects! And in my dream I smile and say, okay, which are the ten most pressing? THE LAST DANGEROUS VISIONS, I've got to get that out of here. The Australian anthology, DOWN DEEP, I've got to get that out of here. Oh, god, I've owed that introduction to

posed, a dog that had been offering oblations. It was not a dog.

The creature stared a moment longer, then moved easily around the bend. Trachtenberg was wrenched out of his horror and rushed down the corridor.

Of course. The corridor was empty.

He heard himself breathing. It was the sound of a man in pain. There were ice crystals in his lungs. A stone had lodged in an artery. There was fear, and there was pain.

He walked back to his apartment. He stepped over the meat and went into the kitchen. He took a hinged pair of salad tongs from the big lucite bowl and went back to the doorway. He drew a deep breath and exhaled, emptying his lungs. Then he drew in as much air as he could hold, bent and pincered up the dripping meat with the hinged fork and spoon. He held it as far away from him as he could. He carried it down the hall to the incinerator chute, holding his breath and leaving a trail of dark blood spots on the carpet. As he opened the incinerator, lowering the scoop chute down to receive the meat, he ran out of stored air and exhaled heavily. The meat was up, in front of him, just in front of him, and as he dropped it into the scoop he was assaulted by the full, warm pungency of it. For an instant it lay there in the scoop and he smelled it, felt the life still in it. . . . and then, gagging, he flung the chute door closed.

While he ran boiling water over the tongs, he wondered from what animal the meat had been torn. It had not been a dog

STORY TO COME... PENNAPS

that Al Capp took about the shmoos, I've got to get that done. The ones that are pressing on me most, I'll do those. And sometimes I'll try to scam the genre by saying, okay, I need to get two columns done, let me have a double-length column, which I can then break a piece off of, and send to another magazine. Even there I'm trying to outwit my own dreams! What can artists writers can be!

Another kind of dream I have is a nostalgia dream about times past that I miss. In the dream I have something like a computer chip in the form of a small cube, and it permits me to go back in time. Say, to 1939. Now. . . I know where I'm going, so I've already taken the precaution of going to a numismatist and getting coins and bills that were printed before 1939. I don't need much. I have about a hundred dollars, which is a lot of money in 1939. The wonderful thing about this is that I'm in my home and nobody knows that I'm going away. I can go out and be gone and they think I'm here. (I don't know where Susan is in this. I suppose that doesn't occur to me.) But I vanish. I go back in time. I'm in my bedroom or my office and I use the cube, and I appear in a third floor walk-up apartment in, it could be Cleveland, could be New York, could be anywhere. . . but it's now 1937, or '38, or '39. 1938, probably, because that was the first year that comic books really started being published in profusion.

I can see the apartment all around me. There's a kind of seedy carpet and the furniture is cheap brown wood. And shabby lace curtains. It's like an old apartment house in the '30s. I'm dressed properly for the era and I go downstairs. I walk up the street and the cars are old Packards and Studebakers and Reos and suchlike. With running boards and rumble seats. I walk to the corner, and there's a cigar store.

The cigar store is a combination of a newsstand/cigar store that was right next to Kresge's in Painesville, Ohio, where, as a kid, I bought my comics, and the newsstand/cigar store that still exists on the corner of 7th Avenue and Christopher Street in Manhattan, near where I lived for a few years. I see the wooden counters, the glass showcases, and the old cigar lighter with the big barrel that you press the handle down and a light flips out. And there, in a long wooden rack with a bolster bar in the front. . . are all the comic books that came out that month.

And I buy that month's issue of *Captain Marvel Adventures*. I buy that month's issue of *Tip Top Comics*, and I buy that month's issue of *Action Comics* with Superman. I buy three or four of each one because they're mint, and I know how valuable they are today. I mean, comics like that run ten, twenty, thirty thousand dollars! There I am, buying these comics and buying pulp magazines. What a rush!

And I'm buying candy. I buy a Baby Ruth bar and it's a real Baby Ruth bar made with real chocolate, not the crap they use today. And I buy a box of Chocolate Babies. I buy the long strips of paper with the little dots on them, the little candy dots that you used to suck off. And beebie bats. I buy licorice whips, and I buy bubble gum. Real bubble gum! And then I go back to the apartment and I come back to our time. And no one knows I've been away. It's only a minute. It's as if poof! I'm back, but I've got all these wonderful things from my childhood.

I have that dream once every couple of months. And I wake up smiling, just happier than I can possibly be. Now if you had really lived in that time, as I did, there was incredible anti-Semitism, if you were black you didn't have a prayer, women were chattel, crime was as rampant as it is today, except without Crips and Bloods and Uzis. It was a very tough time, flat-out hardscrabble. But in my dream, because you can make a dream what you want, it's wonderful; and I'm able to go back and live, as an adult, in the childhood times where you had all the things that, if you had known how much you'd miss them in later years, then you would have saved them, all of them.

I never know when those dreams are going to happen. I think they happen to me when I am at my bitterest and most cynical.

Continued on page 79



Mike Melloh no longer cared about what really killed the dinosaurs. What worried him now was how the dinosaurs had managed to kill Old Doc Hofer!

DAY OF THE DANCING DINOSAUR

BY ARLAN ANDREWS
Illustration By Ron Miller

I was teaching the dinosaur to dance when gunshots rang out, *crack! crack!* reverberating down the hallway of my engineering laboratory.

I jumped involuntarily at the sounds, stumbling a bit in the bulky exo-harness. Across the room the giant *Tyrannosaurus rex* mechanical simulacrum jumped and stumbled in almost exactly the same manner; its computer-linked control system following my every motion, somewhat time-delayed

because of its larger—much larger!—mass. Luckily I had installed safety overrides so that the beast couldn't tip over. A dancing dinosaur is clumsy enough, but a half-ton of falling robot can be a fatal mess.

I punched the STOP and SAVE commands to record the interrupted kinesthetic session, then wriggled out of the harness, feeling greatly relieved as I shed the heavy loads on my feet and my head. Making a human's mass distribution approximate a scale model of *T. rex*'s necessitates some discomfort for the "teacher," even if you are broad in the beam like me. I'd always thought we should be able to match the dino mass distribution without hanging great weights around my body, but so far we hadn't been able to do it better.

Now, I thought, what was that noise? Shots? "—from Dr. Hofer's room," somebody was yelling. My heart sank. Doc? How—? Checking that the robo-*fier* was quiescent, I tossed the hand controller onto a lab bench and broke into a run toward Doc's office.

I was the first person there, and it was pretty bad; the place was a real mess. Doc'd used his Russian-made Cuban Action war souvenir pistol to great effect. Right through the roof of his mouth—blood and tissue splattered the opposite wall, vermell bone fragments embedded in Doc's favorite Endangered Species holoposters. "The Last Panda" smiled through branching capil-

laries of running red wetness, the tiny trails reminding me of red-ink data distribution plots from our lab tests. But these red streaks carried with them mute testimony to the end of a life, the data of death.

Financial data, too. Doc's and my project was deep in the red. And now he was gone, Doc, my partner, my friend. *Why, Doc?* I asked myself, but there was no answer. Not then, not yet.

Town police kept back the student onlookers, questioning us first arrivals on the scene while they photographed the mess. The whole time one small, cool corner of my mind kept wondering about that first shot. Doc had blasted his computer display right through the center of the flexscreen. A cop noticed me looking at the clean bullet hole in the thin sheet. "Hey, Dr. Melloh," she said in a raspy voice, barely more than a whisper, a shocked look on her pale face, "please don't touch anything. Can't disturb the evidence, you know." Her familiarity surprised me. A former student? Evidently she sensed my puzzlement, answering my unspoken question. "Serna. Second year ultramicrotechs, Nanotech 202. Four years ago. Before I changed majors to Social Justice."

"Of course," I lied pleasantly, not remembering her at all and mildly concerned at that. She was definitely attractive and I didn't often forget such comely students. But she *had* switched from engineering after all, and not even to a science major.

"Too bad about Doc," she continued, oblivious of my demeanor. "He wasn't so bad, for a B.L.H."

"A bleeding heart liberal?" I volunteered. She nodded. For all that it was passé this last decade, Doc had been a terribly activist type of guy, concerned about wildlife (pardon me for the specist comment) even before it was Correct, and as Greeno as they came. How he'd ever found the time to be a physicist with all his causes, his street demonstrations, his fiery speeches on the computer nets, I had never known. But unlike many of the freaks, at least he had never supported the socialist systems. Hell, he'd even fought against the last communists, and part of one leg was still somewhere in Cienfuegos. All he'd ever said about his time in the Action was, "The Reds were eating all the animals, Mike. Couldn't let that keep on." Must have been that leg that got him all those government clearances.

"He was a little bit left of freako, I guess," the policeperson shrugged. "Even in his physics classes, he would get witted out on correct topics like enviro-spect and chemical abuse and noxone. But over all, he always taught the perfectibility of personkind." I would have sworn a tear glistened over her left cheek. "Inheritors of Evolution," he said we were, "Blighted Beneficiaries of the Beast That Blasted the Dinosaurs."

"He was the ultimate optimist, so why would he kill himself?" the cop asked, her small voice coming close to cracking. She turned away as the pneumolitter inflated under Doc's limp form. I couldn't answer her question; it made no sense to me either.

As the ambulance departed and the police sealed off Doc's office, my thoughts jumped back to that ruined computer screen. Why had he done that? He had to have known that destroying the crystalline flexscreen couldn't affect the computer's memory; he must have been temporarily insane. Or had he? I had to admit that although Doc was my friend, I probably didn't really know him very well, not down deep where it counts, in the dark and amorphous chambers of personal experience and philosophy. We had worked on a technical problem as a two-man team, and for us, that was the totality of our time together. After all, Doc had been a scientist, not an engineer; a techno immersed also in the liberal arts, answerable to his emotional swings, not a straightforward engineer devoted solely to technical progress. Not like me.

BACK IN MY OWN OFFICE IN THE DINO-SIMULATION LAB, I SPOKE up the comm link between Doc's computer and mine. I was right—none of his data had been destroyed. I commanded the computers to compare all files resident in both machines and copy all differences to mine. Then I had Doc's machine erase all its files permanently; if something strange turned up on his machine, it might make his reputation even worse than it was going to be. And as sole remaining project leader, I was determined that Doc's name and mine be kept as clear and as proud as possible.

Not that we hadn't already stirred up enough trouble, for ourselves and the whole world. We both felt bad enough as it was. That's why I did what I've just done.

I guess it all started with that damned time machine Doc helped build for the military. Dr. Arthur Hofer, big redheaded, redbearded polymath, physicist and recently, paleontologist. (I'd add "pirate" to that list of "P's" if we were in a different century, just from his looks and his stiff-legged swagger.)

Me? I'm Mike Meliuh, professor of mechanical engineering here at the University. Yeah, that Mike Meliuh, the one who with Doc—Art Hofer—created the "Dancing Dinosaurs" craze last year.

Doc had been called that since grade school, I guess because he was a freeqin' genius even then) had been an unknown phys-

*He was the
ultimate
optimist, so
why would
he kill
himself?*

icist at an undistinguished Arizona university. In spite of his Lefto background and his wild-ass protesting, he'd been mostly "In The Black" as we southwesterners often say, that is, his work had been on "Black" projects for the Department of Defense and Department of Energy and the Skunk Works and other, unnameable, unalphabetizable organizations. You know, the Rocky Flats-Yucca Mountain-Area 51-Dreamland-Groom Lake-Mercury-Ft. Hanchuaca-Sandia-Los Alamos-White Sands-Sanspot kinds of secret work that the best of us get to do on contract out here in the desert from time to time. Doc worked Black stuff on contract at all those places—and others you don't know about—just about full time, which shows you how good he was.

When he came to the University here after a long stretch away at some lab or base or whatever, we took him on as a junior engineering prof, even though he was just a scientist. I figured anybody could be trained if they had some technical background and were willing to learn. He'd been able to leverage his resumé to get a rather junior slot in the Mechanical Engineering Department. I supported the hiring billet because we had worked together on odd (and I do mean odd) jobs at Nellis and Sandia and other places over the years. Besides, amongst all the Old Righters like myself, his dissident opinions were a fresh breeze. For me, that is; not all my O.R. friends liked such goings-on.

THEN ONE DAY DOC BROUGHT IN THAT DAMNED HAND-HELD time machine. "Mike," he said, beaming with delight as he handed over a black plastic gadget about the size of a pack of cigarettes (you remember those, of course).

"Look into the viewing lens and tell me what you see."

I grumbled and set aside my morning cup of coffee on one of the ringcupped tables in the faculty lounge and looked into the one opening in the black box, fully expecting a girly show, maybe a tiny video porn thing. "Doc," I muttered, "all I see is a tropical forest. A weird tropical forest, I grant you, but where's the naked girls?"

Doc jerked back the gadget and slipped it into one of the myriad of pockets in his ever-present safari jacket. "What you're seeing, my friend, is a remote monitor, real-time, of the pre-historic past."

I gulped the mouthful of coffee, frowning. "Sure, Doc. And I've got some of H.G. Wells' Favorite over at the lab; we'll go to the Moon today."

He drew close over the table and whispered. That's when I figured he was telling the truth; Doc never spoke in anything but stentorian tones, like so many hard-of-hearing types. "Mike," he said, so low I could hardly hear him, "the primary installation is over at—" To keep my access to future Black contracts, I can't repeat the name of the base, except to tell you it's been removed from all public maps since about 1942—"where I helped the parochronic systems team build time probes and video monitors like these. They're using the system for God knows what applications." He patted one of the pockets, presumably the one holding his time machine. "I figure, this one I build with my own parts, off duty, it's mine. Never hurts to see what the military is doing with your inventions. Besides, I like dinosaurs."

"Dinosaurs? That far back in time?" I decided to play along with the gag, see where the joke would go. "Why the hell does the military need to look back a billion years?"

"Just 60 million or so, I believe. Frankly, I think they're looking for the Big One, the asteroid that killed off the great beasts. They're monitoring a hundred scattered sites down in ancient

Yucatan, over a period of several centuries." He shrugged. "Why they care, what they can do with the data, I haven't the foggiest. But for myself, I do hope to see a dinosaur."

Shaking my head, I finished the coffee and went off to teach young minds how to design three-dimensional objects on their flexscreens and how to build those designs in mere minutes on their desktop manufacturing units. Doc, he went off and looked for dinosaurs in his magic box.

Next morning, sunbathing, coffee as bad as ever. "Saw one, Mike," he began, that great broad smile erupting behind the red beard. "My favorite, old *T. rex*, lumbering through that weird tropical forest."

That got my attention. Old *Tyrannosaurus* himself!

"And that's not all, Mike. The animal wasn't running down prey at 50 kilometers per hour. I didn't record the sequence, unfortunately, and he was in the distance, but I could swear he was *dancing*!"

I just about spit out my coffee laughing, but Doc kept on, the twinkle in his eye expanding to a fanatical nova. "Just imagine, Mike, the dino using those awesome tails to balance themselves while they performed lust-driven mating dances, adrenaline-pumping war dances, whipping themselves into reptilian frenzy before throwing themselves, slaving, at their living prey!" I winced at the image, but it was an interesting concept. Doc explained that back in the last century, paleontologists had determined that dinosaurs didn't drag their tails, instead they probably held them straight out. "To counterbalance their enormous weight for fighting, running prey, that sort of thing. Or so it was believed."

Then Doc asked me for a computer-aided design study of the saurian kinematics of old *T. rex*. Surely, if any dinosaur ever danced, it would have been the two-legged ones like our friend the "Terrible Lizard." "I tell you, I saw him there and he was bouncing leg to leg, right and left, like some stomper at a Country Western club." I held back my sniggers. Whatever Doc's reasons for coming up with this tale, the challenge sounded like a fun job and I could see a few papers coming out of it. Maybe even some soap I could toss to a grad student or three. "Now, I've gotta dig up all the info on the physiology of the beast. Precisely how the *acetabula*—hip sockets—allowed the hipbones to rotate, how those gargantuan muscles pulled those leg bones, how that great mass of flesh balanced itself, ran, and stood its ground to fight. I need to know how they *danced*!"

AFTER CLASSES WE PLUNGED INTO THE WORK WITH A VENGEANCE. We spent long nights at my computer workstation, using all the dynamic-representation software I could dig up. Meanwhile, Doc hooked up a micro-VCR to his tiny time machine, so as to record any dino that might wander by. "One good close-up night give us all the info we need, Mike." But with a hundred stations to monitor, I figured we might not ever see any prehistoric fauna; Murphy's Law doesn't give you an even break, guaranteed.

But that was all right by me, I didn't need to see whatever it was that Doc's box was looking at; the concept itself became an obsession. Dancing dinosaurs, indeed! A dino frolic all my life, I was intrigued. And as an engineer, it was much more fun for me to work out the possible ranges of limb motion and center-of-gravity trajectories for those beloved ancient giants, than to run yet another warhol optimization program for my bread-and-butter grant patrons. The Brazilians can wait, I thought rebelliously. Screw their grants!

"*Tikau* connected to the *ischium*," I sang happily as we transferred flex's bone structure into the database. Doc's frown con-

*I guess it all
started with that
damned time
machine Doc
helped build for
the military.*

ceded my off-key rendition of "Dem Bones." Our first crude animated graphic outputs showed that old Rex indeed was much better suited for moving around in one place than for running as fast as a locomotive. (Or even topping tall buildings with a single bound.) To bad the armchair theorists hadn't done their engineering homework last century; they would have saved themselves a lot of wrong-headed guesses. My studies showed that, hot-blooded or cold-blooded, Rex's many tons wouldn't have stayed erect at any speed over about 4 or 5 kilometers per hour; his physiognomy was unstable beyond that.

"Doc, now we know the old boy didn't run for his supper. So, how did he ever get to eat?"

Doc was thoughtful, then said, "I always thought he might have been a scavenger. Size alone would have been enough to keep competitors away." Myself, I always believed that Rex scared his prey to death, by the mere look and mass of him!

BASED ON WHAT WE KNEW OF DINOSAUR HABITS (AND Doc's little box still hadn't picked up anything larger than a big bug back in 1 billion B.C.) we had our little display-dino simulation do a thumping side-to-side waddle, a few turns. Not much better than the jerky stop-action dino models in the old spec-phi flufffilms. But with Doc's inputs and insights, gradually our model improved. We played around with hypothetical musculature layouts until the choreography began to turn out realistic. "Looks a lot like a chicken, or even an ostrich," I volunteered, "A big, gawky bird doing a square dance!" But Doc didn't care how the beast moved; it was enough that his speculations on dinosaur danceability were absolutely confirmed by computer analysis, satisfying all known skeletal structures in the literature.

As much as anything could be said to be known about the ancient giants, it was dead certain that at least one dino danced.

Doc took me out drinking to celebrate at a redneck dive down on Route 66. "Just think, Mike, we've got a whole new outlook on dinosaurs now. And if I can ever get a good video from my time machine to back it up, you and I'll have enough for a good book, some lectures, real publicity. Maybe some money for cloning trials for our extinct friends, maybe some more recent species." That meant a lot to Doc, I know, with his "perfectibility of humankind" philosophy and all. What better way to show the lunacy race worthy than to bring back extinct forms of life?

And not only that, the mere chance at publicity and writing turned him on just as much. When you're in The Black, you don't get to publish, you don't write books, and as for patents or press releases—forget it! If you stay in The Community your whole professional life, that's really no big deal, since every one of your peers will eventually know about it and give you the respect you crave. But if you want to move on to a good university, sign up with a white-world think tank, without the *see-see*, don't bother. So publicity would be good for Doc. For me too, for that matter; I really wasn't cutting the edge of anything, certainly not getting the best grants, not the best students. That West Coast picotechnology craze was grabbing up all the resources; you couldn't compete with those little virobots!

Regardless of the old spec-phi stories, the possibility of cloning a dino was just fantastic. Too fantastic, really, when we had just lost a few hundred species of mammals in the last decade. If we got the money from books or grants, I figured we'd start with the frozen cell cultures of pandas and rhinos and tigers, then go on to dino as we got good. (We in the sense of the scientific community; Doc and I were not engineers, and all the clonists were

busy making livers and hearts and kidneys and other kinds of guts for the truly needy. The Teague League folks take care of the DNA/RNA nanomanipulations to do that kind of thing.)

I guess Doc and I must have been pretty happy over our visions of future success, because we talked too loud about our findings down at the bar, somebody overheard, and the next day a local TV station came out for a short interview with us. Like the naive technomeros we were, we let them tape our animated *T. rex* simulation. Our extemporaneous phrase, "dancing dinosaurs," got picked up by the networks and the nets and spread all over the world. Within days we were besieged by the media. Seems like everyone in our boring world of peaceful democracies wanted something to believe in, and menacing, stomping, slaving, dancing dinosaurs in full warpaint-colored scaly hide filled that gaping desire.

Afterward we wanted to kick ourselves for not patenting, copyrighting or protecting the concept—or later, for not just keeping it quiet! In two weeks, MTV's leading video featured "T. Rex and the Saurian Stompers," green-jacketed punks with absurd dragon feet and unbelievable crested hairdos, screaming some incomprehensibly aggressive lyrics. Unfortunately, that was only the beginning.

The toy industry, always desperate for a new fad, quickly picked up the dino-dancing craze, and the cheap-labor factories of the Arab world chucked out hundreds of millions of jittering, sharp-toothed facsimiles of *Rex*, *lassosaurus*, and even some old Godzilla re-done in fierce colors. You'd think with a thousand identified species, they could've at least stayed with realistic dinos.

DOC'S ANY MY INITIAL OBSERVATIONS THAT REX AND MANY OF his contemporaries might have been just scavengers didn't even make the news. No, what resonated within a dark reptilian corner of the humyn brain was the terrifying image of dinos wildly stomping and dancing, a frenzy of motion in preparation for fighting and lawmaking. Street gangs from Singapore to St. Petersburg started adopting pseudo-saurian fighting tactics, a swaggering, stomping war dance preceding gruesome fights with steel-clawed gloves and spiked boots. Once I even watched a live report from Turkey, where Armenians and Turks eviscerated each other with those bladed boots in a fight staged for the world's evening news.

The already high incidence of rape took on an ominous and sickening violent intensity everywhere on the globe. But now the victims additionally endured a preliminary humiliation from dino-dancing maniacs who wore lacerating pseudo-reptilian genital attachments. Doc and I were horrified by our innocent involvement in a worldwide bazaar of horror.

At least he and I didn't make any money from the new industry, other than from some talk-show appearances. But on the other hand, we didn't receive any public blame for the epidemic of violence, either. Everyone in authority agreed that some primal instinct for violence had been aroused, that it was not our fault, that almost anything might have set it off. We did feel guilty about the savagery but told ourselves that the world had been crazy before we went public with the dino-dancing theory, and that it would be just as crazy later for other reasons, no matter what we did. But even then, Doc was beginning to worry about his long-held beliefs in the improvement of humankind. I should have seen what was coming, back then.

Because of our minimal notoriety, we finally did get some grants from one South American toy conglomerate, and the money was enough to get us started on making full-sized saurian robots for

*...he was
bouncing, leg to
leg, like some
stomper at
a country
western club.*

research and for display. We knew by then we'd never get enough money to pay for any cloning, but robotics wasn't too bad for second place.

"We don't know exactly how the dinos did move," Doc told the Chilean investors when they came to visit, "but thanks to Dr. Melloh's simulations, we do know the possible ranges of motions, the velocities, accelerations and so forth." I nodded and smiled, anxious to get on with the work. But Doc insisted I get into the cyber-linked ex-harness and "dance with the dinosaur!"

"Actually, as Dr. Melloh moves in this harness, his motions are transmitted to our large friend over there." He waved at the skeletal framework of the unfinished *Rex*. "The robot's onboard computers store the motions, then translate Mike's movements into analogs that the robot can use." At the blank stare of the investors, he explained,

"Mike is a humyn. The dinosaur was much larger and consequently moved much slower. Furthermore, the difference in skeletal structure and mass distribution and musculature means the reptile moved somewhat differently than a humyn would." Doc smiled at me, and I proceeded with the show.

I jumped to the left, and the *Rex*-framework lumbered to the left. I stepped my right foot out and brought it back, *Rex* slowly copying the motion. Remembering an old cult flatfilm and the only dance I had ever been able to learn, I brought my knees in tight and did a pelvic thrust to-and-fro. Old *Rex* pantomimed the routine in slow motion, and I heard one of the Chileans laugh under his breath. He said, "It's astounding." I smiled and winked in recognition.

"Rocky," I whispered.

"That's it, señores," Doc said, "In a few more months, we'll have on the dinosaur's skin and Dr. Melloh will finish fine-tuning the motions. And you'll have your dinosaur for Santiago's celebration park." I could have sworn one of the visitors made a murmur about a "ballontologist," but Doc missed the pun entirely.

That was two months ago. The Chilean grant money dried up immediately afterwards, why, we never knew. Maybe they expected potential dino-warbots to use against their unfriendly neighbors in Brazil? Whatever the reason, it added to the stress we were under. We were running out of money for the project, the insane epidemic of dino-violence was rapidly increasing all over the world, and the University administration began hunting that we had better change our research interests or look elsewhere. Doc had his Black World to retreat into; I'd be the one to "look elsewhere" if it came to that.

BUT THE WORK WAS SO DAMNED INTERESTING I HAD BEGUN to feel an empathy with old *T. rex*. Especially after I worked out the weight system to give myself mass parameters that more nearly matched his. The motions felt natural, I enjoyed the movements, and I started spending many hours trying to make the robo-dino look completely realistic. Of course, I was an engineer and therefore not a good dancer. My limited social life had ended with an early marriage, and neither of us had danced much at all. I'd only learned "The Time Warp" steps, and those from a freaky group of spec phi fans back in Indianapolis. Strange now, to recall that never once did Doc or I think to have a real dancer come in to help us make the dinosaur dance. Had we done so, or had we studied the full range of possible dino-dances, we would have seen the possibility of dinosaurian Baryshnikovs. But we didn't do any of that. Neither of us had much education—or faith—in the fine arts.

Till now, of course.

During all this time, these months when the dino-dancing violence embroiled the world, Doc was in a frenzy of his own, desper-

ately trying to monitor all those prehistoric monitors with just his little pocket machine and a micro-VCR. He hadn't so much as mentioned atmospheric phase changes or nano-enhanced rain forests or the daily list of extinct species. I rather enjoyed the change, wanting to keep him so occupied in our new endeavor that he'd stay this way a long time. "Can't you do a scan from one monitor to the other, Doc?" I suggested, "with a motion detector to stop and record if something big shows up?" By now I had seen some really strange creatures on his tapes, and he had me believing he was actually seeing into the past.

"Mike, this is just a passive monitor, I'm just getting signals from over in Arizona, through pickups I have there, coming over the University Net. I can't control them. However, maybe I can figure out a better scan routine, sample them differently." I knew I'd had some impact on his thinking processes, because his eyes squeezed down ever so little and he grew quiet. I know Doc was thinking on what I'd said.

So maybe this was all my fault? I really don't know; Doc might have figured it out himself. He didn't leave any records about that. What he did leave, I wish I hadn't seen. Today, after the cops left and I was alone in the lab, I skimmed over the new files I'd copied from Doc's machine. I do wish he'd been more thoughtful, had encrypted his data with unbreakable keys. As it was, I called up a motion graphic file and sat back to watch.

Images flickered by in rapid succession. Somehow, Doc had indeed managed to flick from one time terminal to another. After nearly an hour of meaningless still images, the display stopped, revealing a group of animals gathering around a water hole on a brightly-lit Cretaceous plain. I sat, enthralled, as small and giant creatures alike trotted and trod and frolicked near the oasis where, by luck or by design, one of the time terminals was monitoring everything.

It was hours later that I thought to marvel at the technology of time-viewing; Doc had never mentioned how it worked, just hinting at some kind of manipulation of cosmic strings, whatever they are, but it seemed so natural an instrument to have. And the dinosaurs were so beautiful! The skin colors—mauves and pinks and greens and reds and blues. The scales—shimmering rainbows, refractions and reflections of sun and sky. I was hypnotized.

I HAD FORGOTTEN THE NAMES OF MOST OF THE DINOSAUR SPECIES, but I knew the shapes and there must have been hundreds of kinds that came to the water hole—singletons, herds, clumps, prides, even some clusters I could have sworn were families. I was wishing that Doc and I had characterized the known species of dinos before we—I—saw this video, because the parade of saurian life included many types I had never seen before, shapes I didn't recognize. And their locomotion! Doc would have loved it! (Did he love it before? I wondered.) Our animated dino only waddled and strutted and stomped. These elfin creatures—they hopped, they skipped, they ran, they pranced, they preened, they flew, they soared, they bounded, they swam, they splashed, they—!

Realization dawning, I dropped my jaw. In three hours of dino panoply I had not seen any predation! A water hole truce zone? I wished Doc were here to help. But then, he had seen the same thing and then—?

What made him kill himself? Something else on the tape?

With determination I fast-forwarded the ancient scene until the jerky shape of *T. rex* himself nearly filled the screen. This old boy (*girl*?) I didn't see any genitalia and wondered if they had externals) waddled down to the water's edge, lay down in the mud

Then I saw
what did Doc in,
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epiphany.

and proceeded to stick his snout in the shallow water, gulping it down gallon after sloppily gallon. What a sight! Who would have guessed? Then that great lumbering titan pushed himself up on those ridiculously small arms, whirled that gigantic tail backwards, threw his massive head back, and jerked himself upright onto his hind legs.

Again, I was absolutely enraptured. How did this clumsy animal ever survive the tooth-and-nail brutal ecology of his time? It was utterly fantastic!

From the left a herd of crested hadrosaurs (I couldn't recall their species, so I named them Big Crests, *mellosaurus platyus*—the prerogative of a discoverer, I recall) slowly approached the water hole, single file, a stunning sight. *T. rex* drew back a bit. It took nearly an hour for the queue of vegetarians, one at a time, to take their fill of water. I was amazed that old

Rex didn't rip apart a few for an easy meal. I didn't know why not. For a few more blessed minutes, I didn't know.

Now, I do.

I'm glad I'm an engineer, a kind of stick-in-the-caliche guy my wife says, not prone to fits of depression nor heights of euphoria. If I'd had that typical scientist personality, I might've done what Doc did, when I found out what upset him so. I've not been that much into causes, especially since the last communists died under the machetes. I haven't got too upset at the unorganized gangs of toughs around the world, not as long as they don't have nukes or nanos to fight with. And I figure that cloning will bring back any animals or bugs or plants we accidentally kill off. To me, the Universe runs pretty well as it should, so I've never gone into the street to bitch, don't need my emotions wrung out over something I didn't do or couldn't control. Like Doc. No, that artsy-pharisy "holistic," humanistic approach to life leaves too much room for disappointment, for flying off the handle, for making an irreversible statement, for doing something romantic but stupid. You don't believe me, ask Jack London. Ask Ernest Hemingway.

Ask Doc Hofer.

THE LONG ROW OF CRESTED GIANTS WAS WADDLING FROM the waterhole when one of their number swayed and fell, as if sick. The rest drew around their fallen comrade as Rex approached, his great stiletto teeth glistening. I could guess he was snorting with feeding lust, but there was no sound track. Rex came within a few meters of the circle of Big Crests.

The Dance of the Dinosaurs began.

The slowly-moving Big Crests opened and closed their mouths in unison as they swayed, orbiting their impaired and endangered friend. A *chorus*? Impossible, I thought. But then the circle changed direction and the dance began again, the dozen 6-meter hadrosaurs swaying, turning, swiveling, *booring*! First to their own dying brother, then toward the great Tyrant Lizard, *Tyrannosaurus rex*! It was unbelievable.

The dying Big Crest in the middle of the circle raised its head feebly, opening and shutting its mouth rapidly. Then that great head fell, smashing into the soft earth, and the creature was still. Inexplicably, the circle of *hadrosaurs* stopped and looked from their dead companion out toward Rex.

And Rex began a dance of his own. His head swung from side to side, great jaws clamped shut, eyes closed tightly. His massive tail was sticking out horizontally as he began an incredibly complex series of motions, whirling, bowing, left-foot, right-foot; a massive, graceful Cretaceous ballet!

Abruptly he stopped, opened his eyes, looked at the circle of Big Crests. The formation opened and Rex slowly entered. Over

the body of the dead dinosaur, he opened his mouth, swayed drunkenly, then bowed, falling flat on the ground in front of the *hadrosaur*.

I watched in heart-stopping disbelief as the circle of *hadrosaurs* each bowed toward their fallen kin and toward the prostrate Rex, then slowly started single-filing their way toward the horizon, still within the field of view. I was thankful for whatever gods or programmers who had kept the wide-angle shot centered on that unbelievable drama.

As the Big Crests left the picture, disappearing off in the distance to the right, other, smaller dinosaurs and tiny rat-like creatures came within tail-reach of Rex, apparently smelling an easy meal. I could understand why they kept their distance from that powerful tail. What was not understandable was that Rex lay there another hour, quiescent except for swatting away the occasional ratlike mammal that had grown too bold or too hungry to wait for the tyrant's leftovers.

Finally Rex clumsily uprighted himself, sat on his haunches, and dislocated his enormous lower jaw, extending that maw to awesome dimensions. He began to feed. Between the large chunks of bloody meat, after each mouthful gulped down the enormity of that crawl, Rex repeated an abbreviated version of his dance, as if in obedience to his meal-animal. Finally, leaving a substantial portion of the Big Crest's carillon, Rex bowed toward the small dinosaurs who had formed a ring around the scene. Incredibly, they returned the gesture with an ostrich-dance of their own, then proceeded to feed when Rex lumbered off for his days-long digestive nap.

I shut off the computer at this point, a heavy knot forming in my gut. *Tyrannosaurus rex*, most formidable, most terrifying carnivore of all time, merely a scavenger, ballet dancing for his supper! I am no paleontologist (and now I don't believe *anybody* can claim to be one, not with Doc's dino documentary) but I had to believe that the whole sequence was a ceremony of farewell by the Big Crests to one of their own kind who had died, then their granting of Rex's request that he be allowed sustenance from their fallen kin. And then prayers over the meal and the free giving of a portion to the lesser carnivorous saurians.

I was shaken to the core. Far from being the mindless, slaving, lustful brutes of our imagination, these had been gentle, sharing creatures who accepted the roles of herbivore and carnivore in a quiet, ritualistic, dignified manner. Could they have been sentient or was it just instinct, survival mechanisms evolved over the 160 million years their kind had inhabited the earth? In a hundred times as long as humans had existed, there must have been more than enough time to work out all kinds of accommodation with death and feeding.

WHATEVER THE GENESIS OF THAT RITUAL, IT WAS SERENE and it was beautiful. I was so stunned by the ceremony of it all that I played the rest of the recording to see what other revelations would occur. I'm sure Doc thought the same, up till the very end.

Then I saw what Doc did, the final kick over the edge, the evil epiphany. What made me examine the very meaning of mankind.

In those last few minutes of video, the rat-like mammals swarmed in over the smaller dinosaurs, at first fighting them for the carrion spoils, then for their living bodies—tearing and ripping until the meter-tall dino, inundated with small furry creatures, fell into the fallen *hadrosaur* carcass and were devoured with it. Larger mammals slinked from the bushes, joining the feeding frenzy, until only a writhing mass of black, bloody vermin remained. As the scene grew dark with the setting of an orange sun, a few opossum-like, sharp-toothed mammals remained, fighting over the last bloody scraps among the massive bones. To one side, large, wide-eyed dinosaurs watched their mammalian cousins fighting among the scraps. The dino walked off in quiet dignity, leaving wounded, bleeding

vermin ripping living flesh from vanquished prey, reptiles and fellow mammals alike.

I vomited all over the screen.

So that was my dilemma, whether to tell the world, to *show* the world, that the dinosaurs were not savage, not brutal, but peaceful scavengers with a sense of propriety and respect for their fellow food-creatures, a sense we (non-vegetarians) lack even today. And to tell them, too, that the beady-eyed bloodthirsty mammals—*our ancestors!*—invented the killing of live prey, the eating of living creatures. That all violence is a mammalian trait, not a saurian one. That the swaggering, stomping dino-violence they parody actually owes its origins to mammals.

Of course, whether humankind is descended from meat eaters is not the question; that happened millions of years ago and is not really relevant. What is relevant is the knowledge of the horrors we are doing to each other right now, what we humans have unleashed in the name of dancing dinosaurs, thinking that they worked themselves into a war dance frenzy for fighting and mating.

AT FIRST I DIDN'T KNOW WHAT TO DO WITH THE INFORMATION. But in the hours after I watched the end of Doc's video, I watched the world's news and it wasn't good. Years before, a decade or so ago, I thought that the planetwide democratic revolution would bring total peace, forever and ever, amen. The first years following the Soviet collapse had cured me and most of the world of that particular naïveté. But on the news tonight I saw that the ever-mounting street gang violence, unwittingly abetted by Doc's and my own saurian speculations, encompassed tens of thousands of rioting dino-dancing mobs here at home and around the world. Some of the riots have continued for weeks, with virtual anarchy ruling great cities. It threatens to become worse; maybe the whole race is being infected with a mental disease brought on by stimulating the reptilian subconscious? My anguish was this: what would be the effect on the world? I was afraid the truth might push much of the human race over the edge, in guilt or in rage, with much the same result with what I saw happening around the world, we are much too close to that abyss already.

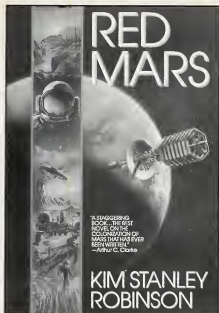
In the back of my mind, I could hear an echo of Doc's own debate with himself. Poor guy, his belief system couldn't take the blow, couldn't adapt to the true descent of mammal from dinosaur. I said a small prayer for the soul of my poor departed emotional friend and made my decision.

First, I called in a woman ballet dancer from the Fine Arts Department and showed her how to use the exo-harness. Then, in concert with the music of "Swan Lake," I taped a session of her leading old *T. rex* in a graceful ballet. She was magnificent, and Rex was simply grand. Using the computer, I took and video-spliced Doc's dino scenes and interposed some of the *T. rex* robot's dancing movements at appropriate places, narrating how Doc and I had duplicated the real thing with this fine machine, showing what these ancient beasts had been capable of. I told of Doc's and my dreams of proving the worth of humankind by bringing back lost species.

Then I spoke of what Doc had done to himself, out of shame and disappointment over what "dancing dinosaurs" had really meant and how we had so misunderstood.

And then, half an hour ago, using the news network contacts Doc and I had made over the last year, I released that video—the whole story, the whole truth—to all the world's news outlets. Tonight we will discover whether we are truly mature as a race.

At the Edge of the Abyss, I wait for the world's reaction with sorrowful hopefulness. An image of innocence keeps returning to my mind, of graceful creatures dancing in Eden. Dancing in the image of their God. □



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Vic loved Jade, in a cruel world in which she dared not love him back. With that world ready to explode, would they at last have their chance?

THEY KINGDOM COME

BY BEN BOVA

Illustration by Jim Burns

*Audio transcript of testimony of
Salvatore (Vic) Passalacqua:*

I KNEW IT WOULDN'T BE EASY, BUT I FIGURED I HADDA AT LEAST TRY. Y'know? The [deleted] Controllers had grabbed her in one of their swoops and I hadda get her back before they scrambled her [deleted] brains with their [deleted] sizzlers.

Her name? Oh yeah, I forgot you're tapin' all this. How do I look? Not bad for a guy goin' on 30, huh? Yeah, yeah. Her name's Jade Diamond, keenest-looking piece of—no, that ain't her real name. 'Course not. Her real name was Juanita Dominguez. I knew her before she changed it. And her eyes. Like I said, she was real beautiful. Naturally. Without the implants and the eye job. They changed her eyes 'cause most of the big spenders are Japs.

Anyway, she was supposed, t'be protected just like all the hookers. Except that the [deleted] [deleted] Controllers don't take nobody's payoffs—that's what they say, at least.

So there was Jade in the holdin' jug down at City Hall and here was me makin' a living out of old TV sets and tape players, anything to do with electrical stuff. Where? In the junkyards, where else? You don't think I stole anything, do you? Why would I have to risk my butt goin' into the tracts and breakin' into peoples' houses when they throw away their stuff every year and it all winds up in the junkyards.

Yeah, I know the stuff is all supposed to be recycled. That's what I do. I recycle it before the [deleted] recyclers get their [deleted] claws on it.

Look, you wanna know about the Chairman and Jade and me or you wanna talk about business?

OK. I was in love with Jade, that's why I did what I did. Sure, I knew she was a pro. You'd be too if you'd grown up in the city. We don't exist, y'know. Not legally. No records for any of us, not even the [deleted] police bother to keep records on us anymore. Not unless we done somethin' out in the tracts. As far as your [deleted] mother-[deleted] computer files are concerned, we

weren't even born. So of course we don't die. If we don't bury our own, the [deleted] sanitation robots just dump our bodies into a pit and bulldoze 'em over. After they've taken out all the organs they wanna use for transplants, that is. And we sure don't get nuthin from your sweetheart of a government while we're alive. Nuthin but grief. Lemme tell ya—

OK. OK. Jade and the Chairman.

NONE OF IT WOULD'VE HAPPENED IF THE CONTROLLERS hadn't picked up Jade. I guess they picked her up and the other girls 'cause the Chairman was comin' to Philly to make a speech and they wanted the streets to look clean and decent. First time I saw a sanitation robot actually cleanin' the [deleted] street. First time in my life! I swear.

Anyway, there Jade was in the tank and here I was at the junkyard and all I could think of was gettin' Jade out. I knew I needed help, so first thing in the morning I went to Big Lou.

His name's kind of a joke. You know? Like, he's even shorter than me, and I been called a runt all my life. His face is all screwed up, too, like it was burned with acid or somethin' when he was a kid. Tough face. Tough man. I was really scared of Big Lou but I wanted to get Jade outta the tank so bad I went to him anyway.

The sun was just comin' up when I got to the old school building where Big Lou had his office. He wasn't there that early. So I stood around out in the street until he arrived in his car. It was polished so hard it looked brand new. Yeah, a regular automobile, with a driver. What's it run on? How the hell would I know? Gasoline, I guess. Maybe one of those fancy other fuels, I don't know.

At first Lou told me to get lost, like I figured he would. I was just small-time, a junkyard dog without the teeth, far as he was concerned. See, I never wanted to be any bigger. I just wanted to live and let live. I got no hatred for nobody.

But while I'm beggin' Big Lou for some help to spring Jade, he gets a phone call. Yeah, he had a regular office in the old school building in our neighborhood. I know, they shut down all the schools years ago, before I was even born. They're supposed to be abandoned, boarded up. Hell, most of 'em were burned down long ago. But not this one. It's still got a pretty good roof and office space and bathrooms, if you know how to turn the water on. And electricity. OK, sure, all the windows were smashed out in the old classrooms and the rest of the building's a mess. But Lou's office was okay. Clean and even warm in the winter. And nobody touched his windows, believe me.

"I know, down in South Philly, from what I hear—Oh yeah, you people don't know Philly that well, do you? Where you from, New York? Washington? Overseas? What?"

OK, OK. So you ask the questions and I do the answerin'. OK. Just curious. Where was I?

Big Lou, right. He had an office in the old school building. Yeah, he had electricity. Didn't I tell ya that already? There was a couple TVs in the office and a computer on his desk. And he had a fancy telephone, too. I had put it together myself. I recognized it soon as I saw it. Damned phone had its own computer chips: memory, hunt-and-track, fax—the works. I had sold it to Lou for half a peanut; cost me more to put it together than he paid for it. But when you sell to Big Lou you sell at his price. Besides, who the [deleted] else did I know who could use a phone like that?

Anyway, I'm sittin' there in front of his desk. Big desk. You could hold a dance on it. I had figured that Big Lou could talk to a couple people, put a little money in the right hands, and Jade could get out of the tank before the [deleted] Controllers fried her brains and sent her off to Canada or someplace.

Lou gets this phone call. I sit and wait while he talks. No, I don't know who called him. And he didn't really do much talkin'. He just sort of grunted every now and then or said, "Yeah, I see. I gotcha." His voice is kinda like a diesel truck in low gear, like whatever burned his face burned the inside of his throat, too.

Then he puts down the phone and smiles at me. Smiles. From a face like his it was like a flock of roaches crawlin' over you.

"I got good news for you, Vic," he says. "I'm gonna help you get your spiff outta the tank." All with that smile. Scared the [deleted] outta me.

"The hearings for all the bimbos they rounded up are 3 o'clock this afternoon. You be there. We're gonna make a commotion for you. You grab your [deleted] and get out fast. Understand me?"

I didn't like the sound of that word *commotion*. I wasn't sure what it meant, not then, but I figured it would mean trouble. All I wanted was for Big Lou to buy Jade's way out. Now it sounded like there was goin' to be a fight.

Don't get me wrong. I've had my share of fights. I'm on the small side and I'm sure no joke, but you can't even exist in the city if you can't protect yourself. But I didn't like the idea of a fight with the city police. They like to beat up on guys. And they carry guns. And who knew what in hell the Controllers carried?

"You understand me?" Big Lou repeated. He didn't raise his voice much, just enough to make me know he wanted the right answer outta me.

"Yeah," I said. My voice damned near cracked. "Sure. And thanks." I got up and scooted for the door.

Before I got to it, though, Big Lou said, "There's a favor you can do for me, kid."

"Sure, Lou," I said. "Tonight, tomorrow, when? You name it."

"Now," he said.

"But Jade—"

"You'll be done in plenty time to get to City Hall by 3:00."

I didn't argue. It wouldn't have done me no good. Or Jade.

What he wanted was a fancy electronic gizmo that I had to put together for him. I knew it was important to him because he told one of his goons—a guy with shoulders comin' straight out of his ears, no neck at all, so help me—to drive me all the way downtown to the old Navy base. It had been abandoned before I was born, of course, but it was still a treasure island of good stuff. Or so I had been told all my life. I had never even got as far as the electrified fence the Feds had put up all around the base, let alone inside the base itself. You had to go through South Philly to get to the base, and a guy alone don't get through South Philly. Not in once piece, anyway.

But now here I was bein' taken down to that fence and right through it, in a real working automobile, no less! The car was dead gray with government numbers stenciled on the driver's door. But the driver was Big Lou's goon. And Little Lou sat on the back seat with me.

Little Lou was a real pain in the ass. Some people said he really was Big Lou's son. But he sure didn't look like Big Lou. Little Lou was only a couple years older than me and he was twice Big Lou's size, big and hard with muscles all over. Good-lookin' guy, too. Handsome, like a video star. Even if he hadn't been a big shot he could've had any girl he wanted just by smilin' at her.

He was smart. And strong. But he was ugly inside. He had a nasty streak a mile and a half wide. He knew I wanted to be called Vic. I hate the name my mother gave me: Salvatore. Little Lou always called me Sal. Or sometimes Sally. He knew there wasn't a damned thing I could do about it.

I TRIED TO KEEP OUR TALK STRICTLY ON THE BUSINESS AT HAND. And one eye on my wristwatch. It was an electronic beauty that I had rebuilt myself; kept perfect time, long as I could scrounge a battery for it every year or so. I kept it in an old scratched-up case with a crummy rusted band so nobody like Little Lou would see how great it was and take it off me.

It was noon when we passed through a gate in the Navy base fence. The gate was wide open. No guard. Nobody anywhere in sight.

"So what's this gizmo I'm supposed to put together for you?" I asked Little Lou.

All you gotta do is put together the gizmo that sets the bomb off.

He gave me a lazy smile. "You'll see. We got a man here with all the pieces, but he don't know how to put 'em together right."

"What's the thing supposed to do?"

His smile went bigger. "Set off a bomb."

"A bomb?"

He laughed at how my voice squeaked. "That's right. A bomb. And it's gotta go off at just the right instant. Or else."

"I—I had to swallow. Hard. 'I never worked with bombs.'"

"You don't have to. All you gotta do is put together the gizmo that sets the bomb off."

Well, they took me to a big building on the base. No, I don't remember seein' any number or name on the building. It looked like a great big tin shed to me. Half fallin' down. Walls slanting. Holes in the roof, I could see once we got inside. Pigeon crap all over the place. Everything stunk of rust and rot. But there were rows and rows of shelves in there, stacked right up to the roof. Most of 'em were bare, but some still had electronic parts in their cartons, brand-new, still wrapped in plastic, never been used before. My eyes damn' near popped.

And there was a guy there sittin' in a wheelchair next to a long bench covered with switches and batteries and circuit boards and all kinds of stuff. Older guy.

Hair like a wire brush, a couple days' beard on his face, grayer than his hair. One of his eyes was swollen purple and his lip was puffed up too, like somebody'd been sluggin' him. Nice guys, bastin' on a wheelchair case.

I got the picture right away. They had wanted this guy to make their gizmo for them and he couldn't do it. Little Lou or one of the others had smacked the poor slob around. They always figured that if you hit a guy hard enough he would do what you wanted. But this poor bastard didn't know how to make the gizmo they wanted. He had been a sailor, from the looks of him: face like leather and tattoos on his arms. But something had crippled his legs and now he was workin' for Big Lou and Little Lou and takin' a beating because they wanted him to do somethin' he just didn't know how to do.

He told me what they wanted. Through his swollen split lips he sounded strange, like he had been born someplace far away where they talk different from us. The gizmo was a kind of a radar but not like they use in kitchen radar ranges. This one sent out a microwave beam that sensed the approach of a ship or a plane. What Little Lou wanted was to set off his bomb when whatever it is he wanted to blow up was a certain distance away.

Electronics is easy. I heard that they used to send guys to school for years at a time to learn how to build electronic stuff. I could never understand why. All the stuff is pretty much the same. A resistor is a resistor. A power cell is a power cell. You find out what the gizmo is supposed to do and you put together the pieces that'll do it. Simple.

I had Little Lou's gizmo put together by 1 o'clock. Two hours to go before I had to be in City Hall to take Jade away from the Controllers.

"Nice work, Sal," Little Lou said. He knew it got under my skin.

"Call me Vic," I said.

"Sure," he said. "Sally."

That was Little Lou. If I pushed it he would've smacked me in the mouth. And laughed.

"I got to get up to City Hall now," I said.

"Yeah, I know. Hot for that little [deleted], aincha?"

I didn't answer. Little Lou was the kind who'd take your girl away from you just for the hell of it. Whether she wanted to or

not. And there'd be nuthin' I could do about it. So I just kept my mouth zipped.

He walked me out to the car. It was hot outside; July hot. Muggy, too. "You start walkin' now, you'll probably just make it to City Hall on time."

"Walk?" I squawked. "Ain't you gonna drive me?" I was sweatin' already in that hot sun.

"Why should I?" He laughed as he put the gizmo in the car's trunk. "I got what I want."

He shut the trunk lid real careful, gently, like maybe the bomb was in there too. Then he got into the car's back seat, leaving me standin' out in the afternoon sun feelin' hot and sweaty and stupid. But there wasn't a damned thing I could do about it.

Finally Lou laughed and popped the back door open. "Come on in, Sally. You look like you're gonna bust into tears any minute."

I felt pretty [deleted] grateful to him. Walkin' the few miles uptown to City Hall wouldn't have been no easy trick. The gangs in South Philly shoot first and ask questions afterward when a stranger tries to go through their turf.

About halfway there, though, Little Lou lets me know why he's bein' so generous.

"Tonight," he says, "9 o'clock sharp. You be at the old Thirtieth Street Station."

"Me? Why? What for?"

"Two reasons. First we gotta test the gizmo you made. Then we gotta hook it up to the bomb. If it works right."

He wasn't smilin' any more. I was scared of workin' with a bomb, lemme tell you. But not as scared as I was at the thought of what Little Lou'd do to me if the gizmo didn't work right.

SO I GOT TO CITY HALL IN PLENTY TIME OK. IT'S A BIG UGLY pile of gray stone, half fallin' apart. A window sill had crumbled out a couple months ago, just dropped out of its wall and fell to the street. Solid hunk of stone, musta weighed a couple tons. It was still there, stickin' through the pavement like an unexploded bomb. I wondered what would happen if the statue of Billy Penn, up at the top of the Hall's tower, ever came loose. Be like a [deleted] atomic bomb hittin' the street.

Usually City Hall is a good place to avoid. Nobody there but the suits who run what's left of the city and the oinks who guard 'em.

Oinks? Pigs. Helmet-heads. Bruisers. Cops. Police. There are worse names for them, too, y'know.

Well, anyway, this particular afternoon City Hall is a busy place. Sanitation robots chuggin' and scrubbin' all over the place. A squad of guys in soldier uniforms and polished helmets goin' through some kind of drill routine in the center courtyard. Even a crew of guys with a truck and a crane tryin' to tug that window sill outta the pavement. Might as well be tryin' to lift the [deleted] Rock of Gibraltar, I thought.

They were goin' through all this because the Chairman of the World Council was comin' to give a speech over at Independence Hall. Fourth of July and all that crap. Everybody knew that as soon as the Chairman's speech was over and he was on his way back to New York or wherever he stayed, Philly would go back to bein' half-empty, half-dead. The sanitation robots would go back to the housing tracts out in the suburbs and Philly would be left to itself, dirty and hot and nasty as hell.

I felt a little edgy actually goin' inside City Hall. But I told myself, what the hell, they got nuthin on me. I'm not wanted for any crime or anything. I don't even exist, as far as their con-

paters are concerned. Still, when I saw these guys in suits and ties and all I felt pretty crummy. Like I should have found a shower someplace or at least a comb.

I didn't like to ask nobody for directions, but once I was inside the Hall I didn't have a [deleted] idea of where I should go. I peeked out a woman, dressed real neat in kind of a suit but with a skirt instead of pants. Even wore a tie. No tits to speak of, but her hair was a nice shade of yellow, like those girls you see in TV commercials.

She kind of wrinkled her nose at me, but she pointed up a flight of stone stairs. I went up and got lost again right away. Then I saw an oink—a woman, though—and asked her. She eyed me up and down like she was thinkin' how much fun it'd be to hash me on the head with her billy. But instead she told me how to find the courtroom. She talked real slow, like I was brain-damaged or something. Or maybe she was, come to think of it.

I went down the hall and saw the big double-doored entrance to the courtroom. A pair of oinks stood on either side of it, fully armed and helmeted. A lot of people were streamlin' through, all of them well-dressed, a lot of them carrying cameras or lap-top computers. Lots of really great stuff, if only I could get my hands on it.

Then I saw a men's room across the corridor and I ducked inside. A couple homeless guys had made a camp in the stalls for themselves. The sinks had been freshly cleaned up, though, and the place didn't smell too bad. I washed my face and hands and tried to comb my hair a little with my fingers. Still looked pretty messy, but what the hell.

Taking a deep breath, I marched across the corridor and through the double doors, right past the oinks. I didn't look at them, just kept my eyes straight ahead.

And then I saw Jade.

They had her in a kind of a pen made of polished wood railings up to about waist level and thick shutter-proof glass from there to the ceiling. She was in there with maybe three dozen other pros, most of 'em lookin' pretty tired and sleazy. I gotta admit. But not Jade. She looked kind of scared, wide-eyed, you know. But as beautiful and fresh as a flower in the middle of a garbage heap. I wanted to wave to her, yell to her so she'd notice me. But I didn't dare.

You gotta understand, I was in love with Jade. But she couldn't be in love with me. Not in her business. Her pimp would beat the hell out of any of his whores who took up with anybody except himself. I had known her since we were kids together runnin' along the alleys and raiding garbage cans, keepin' one jump ahead of the dog packs. Back when her name was still Juanita. Before she had her eyes changed. I had kissed her exactly once, when we was both 12 years old. The next day she turned her first trick and went pro.

But I had a plan. For the past five years I had been savin' up whatever cash I could raise. Usually, you know, I'd get paid for my work in food or drugs or other stuff to harter off. But once in a while somebody'd actually give me money. What? Naw, I never did much drugs; screwed up my head too much. I usually traded whatever [deleted] I came across. I seen what that stuff does to people; makes 'em real psycho.

Anyway, sometimes I'd get real money. That's when I'd sneak out to the housing tracts where they had automated bank machines and deposit my cash in the bank. All strictly legitimate. The bank didn't care where the money came from. I never had to deal with a living human being. All I had to do to open the account was to pick up a social security number, which I got from a wallet I had found in one of the junkyards when I was 10, 11 years old. Even that young, I knew that card was better than gold.

So I had stashed away damn' near a thousand dollars over the years. One day I would use that money to take Jade outta the city, out of her life. We'd buy a house out in the tracts and start to live like decent people. Once I had enough money.

But then the [deleted] Controllers had arrested Jade. What I heard about the Controllers scared the [deleted] outta me. They were bigger than the city oinks, bigger even than the state police or the National Guard. They could put you in what they called International Detainment Centers, all the way out in Wyoming or Canada or wherever the hell they pleased. They could scramble your brains with some super electronic stuff that would turn you into a zombie.

That's what they were goin' to do to Jade. If I let them.

I sat in the last row of benches. The trials of the pros were already goin' on. Each one took only a couple minutes. The judge sat up on his high bench at the front of the courtroom, lookin' sour and cranky in his black robe. A clerk called out one of the girls' names. The girl would be led out of the holding pen by a pair of women oinks and stood up in a little railed platform. The clerk would say that the girl had been arrested for prostitution and some other stuff I couldn't understand because he was mumblin' more than speakin' out loud.

The judge would ask the girl how she pleaded: guilty or innocent. The girl would say, "Innocent, your honor." The judge would turn to a table full of well-dressed suits who had a bunch of lap-tops in front of them. They would peck on their computers. The judge would stare into the screen of his computer, up on the desk he was sittin' at.

Then he'd say, "Guilty as charged. Sentenced to indeterminate detention. Next case." And he'd smack his gavel on the desk top.

I remember seein' some old videos where they had lawyers arguin' and a bunch of people called a jury who said whether the person was guilty or innocent. None of that here. Just name, charge, plea, and "Guilty as charged." Then—*wham!*—the gavel smack and the next case, Jade wouldn't have a chance.

And neither did I, from the looks of it. How could I get her away from those oinks, out from behind that bulletproof glass? Where was this commotion Big Lou promised, whatever it was supposed to be?

THEY WERE ALMOST HALFWAY THROUGH THE WHOLE GANG-OF-girls, just whippin' them past the judge, bang, bang, bang. Jade's turn was comin' close; just two girls ahead of her. Then the doors right behind me smack open and in clumps some big guy in heavy boots and some weird kind of rubbery uniform with a kind of astronaut-type helmet and a visor so dark I couldn't make out his face even though I was only a couple feet away from him.

"Clear this courtroom!" he yells. In a deep booming voice. "There's been a toxic spill from the clean-up crew upstairs. Get out before the fumes reach this level!"

Everybody jumps to their feet and pushes for the door. Not me. I start jumpin' over the benches to get up front, where Jade is. I see the judge scramble for his own little doorway up there, pullin' his robe up almost to his waist so he could move faster. The clerks and the guys with the laptops are makin' their way back toward the corridor. As I passed them I saw the two oinks openin' the glass door to the holding pen and startin' to hustle the girls out toward a door in the back wall.

I shot past like a cruise missile and grabbed Jade's wrist. Before the oinks could react I was draggin' her up the two steps to the same door the judge had used and I clicked its lock.

I said something brilliant like, "Come on."

"What're you doing? Where're we going?"

"Takin' you outta here."

Jade seemed scared, confused, but she came along with me all right. The judge was nowhere in sight, just his robe thrown on the floor. Somebody was poundin' on the door we had just come through and yellin' the way oinks do. There was another door to the room and the judge had left it half open. I had no way of knowin' if that toxic spill was real or not, but I knew that the oinks would be after us either way so I dashed for the door, Jade's wrist still in my grip.

Taking a deep breath, I marched across the corridor, right past the oinks.

"You're crazy," she said, kind of breathless. But she came right along with me. And she smiled at me as she said it. If I hadn't been so wound tight I would've kissed her right there and then.

Instead we pounded down this empty corridor and found an elevator marked JUDGES ONLY. I leaned on the button. Somebody appeared at the far end of the corridor, a guy in a business suit.

"Hey, you kids," he yelled, kind of angry, "you're not allowed to use that elevator."

Just then the doors slid open. "Emergency!" I yelled back and pulled Jade inside.

WHEN WE GOT DOWN TO THE STREET LEVEL EVERYTHING seemed normal. Nobody was runnin' or shoutin'. I guessed that the toxic spill was a phony. I couldn't imagine Big Lou doin' something like that just for me, but maybe he needed his bomb gismo bad enough after all. Anyway, I told Jade to act normal and we just walked into the central courtyard nice and easy, me in my shabby jeans and sneakers and her in her workin' clothes: spike heels, microskirt, skintight blouse. They had washed off her makeup and her hair looked kind of draggled, but she was still beautiful enough to make even the women out there turn and stare at her.

The work crew was still tryin' to tug that fallen window sill outta the cement when we walked past. I steered Jade toward the boarded-up entrance to the old subway.

"We're not going down there!" she said when I pushed a couple boards loose.

"Sure as hell are," I said.

"But—"

"Hey you!" yelled a guy in a soldier uniform.

"Come on!" I tugged at Jade's wrist and we started down the dark stairway underground.

The steps were slippery, slimy. It was dark as hell down there and it stunk of [urine]. The air was chilly and kind of wet; gave you the shakes. I could feel Jade trembling in my grip. With my other hand I fished a penlight outta my pocket. What? I always keep a light on me. And make sure the batteries are good, too. You never know when you're gonna need a light; trouble don't always come at high noon, y'know.

"Vic, I don't like this," Jade said.

"I don't either, honey, but we gotta get away. This is the best way to do it." I clicked on my penlight; it threw a feeble circle of light on the filthy, littered tiled floor. "See, it ain't so bad, is it?"

Jade was right in a way. The subway tunnels really were dangerous. We had heard stories since we were little kids about the hordes of rats livin' down there. And other things, monsters that crawled outta the sewers, people who lived down there in the dark for so long they'd gone blind—but they could find you in the dark and when they did, they ate you raw, like animals.

I was kind of shakin' myself, thinkin' about all that. But I wasn't gonna let Jade be taken away by the Controllers and I wasn't gonna play with no bombs for Little Lou or Big Lou or anybody. I was takin' Jade and myself outta the city altogether, across the bridge and out into the housing tracts on the other side of the river. I'd take my money from the bank and find a place for us to live and get a regular job someplace and start to be a real person. The two of us. Jade and me.

OK, maybe it was just a dream. But I wanted to make my dream come true. Wanted it so bad I was willin' to face anything.

WELL, THERE AIN'T NO SENSE TELLIN' YOU ABOUT EVERY step of the way we took in the subway tunnels. There were rats, plenty of 'em, some big as dogs, but they stayed away from us as long as the penlight worked. We could see their red eyes burnin' in the dark, though, and hear them makin' their screechy little rat noises, like they was talkin' to each other. Jade had a tough time walkin' on those spike-heel shoes of hers, but she wouldn't go barefoot in the sloppy goo we had to walk through. My own sneakers were soaked through with the muck, it made my feet burn.

Jade screamed a couple times, once when she stumbled on something squishy that turned out to be a real dog that must've died only a few hours earlier. It was half eaten away already.

No monsters from the sewers, though. And if there was any blind cannibals runnin' around down there, we didn't see them. The rats were enough, believe me. I felt like they were all around us, watchin', waitin' until the batteries in my light gave out. And then they'd swarm us under and do to us what they had started to do to that dog.

All the subway tunnels meet under the City Hall, and I sure as hell picked I had picked the right one, the one that goes out to the river. After hours and hours, I noticed that the tunnel seemed to be slantin' upwards. I saw some light up ahead.

Sure enough, the tracks ran up and onto the Ben Franklin Bridge that crossed the Delaware. It was already night, and drizzling a cold misty rain out there. No wind, not even a breath of air movin'. And no noise. Silence. Everything was still as death. It was kinda creepy, y'know. I been on that bridge lotsa times; up that high there was always a breeze, at least. But not that night.

At least we were out of the tunnel. On the other side of that bridge was the housing tracts, the land where people could lead decent lives, safe from the city.

I knew the bridge was barricaded and the barricades were rigged with electronic chips that spotted anybody tryin' to get through. Those people in the tracts didn't like havin' people from the city comin' over to visit. Not unless they drove cars that gave out the right electronic ID signals. But I had gotten past the barricades before. It took a bit of climbin', but it could be done. Jade could take off her spike heels now and climb with me.

But in front of the barricade was a car. A dead gray four-door with government numbers stenciled on the driver's door. Only the guys standin' beside the car weren't government. They were Little Lou and his goon driver.

Lou was leanin' against the hood, lookin' relaxed in a sharp suit and open-collar shirt. His hair was slicked back and when he saw Jade, he smiled with all his teeth.

"Where you goin', Sal?" he asked, real quiet, calm.

I had to think damned fast. "I thought we was in the tunnel for the Station! I must've got mixed up."

"You sure did."

Lou nodded to the goon, who opened the rear door of the car I started for it, head hung low. He had out-smarted me.

"Not you, stupid," Lou snarled at me. "You sit up front with Rollo." He made a little half bow at Jade, smilin' again. "You sit in back with me, spill."

Jade got into the car and scrunched herself into the corner of the back seat, as far away from Little Lou as she could. I sat up

front, half twisted around in the seat so I could watch Lou. Rollo was so big his elbow kept nudgin' me every time he turned the steering wheel.

"You was supposed to be at the Thirtieth Street Station at 9 o'clock," Little Lou said to me. But his eyes were on Jade, who was startin' off at nothing.

I looked at my wristwatch. "Hell, Lou, it's only 7:30."

"Yeah, but you were headin' in the wrong direction. A guy could lose some of his fingers that way. Or get his legs broke."

"I just got mixed up down in the tunnels," I said, tryin' to make it sound real.

"You're a mixed-up kid, Sally. Maybe a few whacks on your thick skull will straighten you out."

There wasn't much I could say. If Little Lou was waitin' for me at the bridge he had me all figured out. I just hoped he really needed me enough to keep me in one piece so I could set up his bomb gizmo for him. What would happen after that, I didn't know and I didn't want to think about.

WE DROVE THROUGH THE DEAD-EMPTY CITY FOR A DOZEN blocks or so. I had turned around in my seat and was lookin' ahead out the windshield. Everything was dark. Not a light in any window, not a street lamp lit. I knew people lived in those buildings. They were supposed to be abandoned, condemned. But nobody bothered to tear them down; that would cost the taxpayers too much. And the people who didn't exist, the people whose names had been erased from the government's computers, they lived there and died there and had babies there. I was one of those babies. So was Jade.

"Are those tits real?" I heard Lou ask.

Through the side view mirror I saw Jade turn her face to him. Without a smile, with her face perfectly blank, she took his hand and placed it on her boob.

"What do you think?" she asked Lou.

He grinned at her. She smiled back at him. I wanted to kill him. I knew what Jade was doin': tryin' to keep Lou happy so he wouldn't be sore at me. She was protectin' me while I sat there helpless and the dirty [deleted] [deleted] bastard climbed all over her.

"Thirtieth Street Station comin' up," said Rollo. His voice was high and thin, almost like a girl's. But I bet that anybody who laughed at his voice got his own windpipe whacked inside out.

Lou sat up straight on the back seat and ran a hand through his hair. Jade edged away from him, her face blank once again.

"Okay, Sally, you little [deleted]. Here's where you earn your keep. Or I break your balls for good."

Lou, Rollo and me got out of the car. Lou ducked his head through the open rear door and told Jade, "You come too, cute stuff. We'll finish what we started when this is over."

Jade glanced at me as she came out of the car. Lou grabbed her by the wrist, like he owned her.

If Lou had been by himself I would have jumped him. He was bigger than me, yeah, and probably a lot tougher. But I was desperate. And I had the blade I always carried taped just above my right ankle. It was little, but I kept it razor sharp. Lou was gonna take Jade away from me. Oh, I guess he'd let her come back to me when he was finished with her, maybe. But who knew when? Or even if. I had only used that blade when I needed to protect myself. I needed to have the guts to cut Lou if I could get him in a one-on-one?

But Lou wasn't alone. Rollo was as big as that damned City Hall window sill. There was no way I could handle him unless I had a machine gun or a rocket launcher or something like that. I was desperate, all right. But not crazy.

The Station was all lit up. Cleaning crews and robots were crawlin' all over the old building, but I didn't see any oinks or soldiers. Later I found out that they would be pourin' into

the area in the morning. The Chairman was due to arrive at 11 a.m.

Lou took me and Jade to a panel truck marked PUBLIC WORKS DEPARTMENT. Two other guys was already sittin' up front. And there was my gizmo, sittin' on the bare metal floor. All by itself. No bomb in sight. That made me feel better, a little.

They hustled us into the truck and made me sit on the floor, big Rollo between me and the back door and Lou across from me. He made Jade sit beside him. She kept her legs pressed tight together. We drove off.

"Where we goin'?" I asked.

Lou said, "There's a maintenance train comin' down the track in half an hour. You set up your gizmo where we tell you to, and we see if it can spot the train at the right distance away and send the signal that it's supposed to send."

"What're you guys gonna do, blow up the Chairman?"

I got a backhand smack in the face for that. So I shut my mouth and did what they told me, all the while tryin' to figure out how in hell I could get Jade and me outta this. I didn't come up with any answers, none at all.

When the truck stopped Rollo got out first, then Lou shoved me through the back door. The other two guys stayed in their seats up front. Lou pushed the gizmo across the truck's floor toward me. It was heavy enough so I needed both hands.

"Don't drop it, [deleted] head," Lou growled.

"Why don't we let Rollo carry it?" I said.

Lou just laughed. Then he helped Jade out the back door. I thought he helped her too damned much, had his hands all over her.

We was parked maybe 10 blocks away from the station. Its lights glowed in the misty drizzle that was still comin' down, the only lights in the whole [deleted] city, far as I could see. Some of the people livin' in the buildings all around there had electricity, I knew. Hell, I had wired a lot of 'em up. But they kept their windows covered; didn't wanna let nobody know they was in there. Scared of gangs roamin' through the streets at night.

All those suits and oinks and everybody who had been at City Hall was all safe in their homes in the tracts by now. Nobody in the city except the people who didn't exist, like Jade and me. And the rats who had business in the dark, like Little Lou.

I saw why Lou didn't want Rollo to carry the gizmo. The big guy walked straight up to a steel grate set into the pavement. It must have weighed a couple hundred pounds, at least, but he lifted it right up, rusty hinges squealin' like mad. I saw the rungs of a metal ladder goin' down. Lou shone a flashlight on them. They had been cleaned off.

ROLLO TOOK THE GIZMO OFF ME AND TUCKED IT UNDER ONE arm. I followed him down the ladder. Down at the bottom there were three other guys waitin'. Guys like I had never seen before. Foreigners. Dark skin, eyes like coals. One of them had a big dark droopy moustache, but his long hair was streaked with gray. They were all kind of short, my height, but very solid. Their suits looked funny, like they had been made by tailors who didn't know the right way to cut a suit.

The two clean-shaven ones were carryin' automatic rifles, mean-looking things with curved magazines. Their jackets bulged; extra ammunition clips, I figured. They looked younger than the guy with the moustache; tough, hard, all business.

"This is the device?" asked the one with the moustache. He said "thees" instead of "this."

Lou nodded. "We're gonna test it, make sure it works right."

"Bueno."

We were in a kind of—whattaya call it, an alcove?—yeah, an alcove cut into the side of the train tunnel. The kind where work crews could stay when a train comes past. This wasn't one of the old city subways; it was the tunnel that the trains from other cities used, back when there had been trains runnin'. The Chair-

I was startin' to wonder whether these guys would let us live after their "operation..."

man was comin' in on a train the next morning, and these guys wanted to blow it up. Or so I thought.

Rollo carried the gizmo down to the side of the tracks. For an instant I almost panicked; I realized that we needed a power pack. Then I saw that there was one already sittin' there on the filthy bricks of the tunnel floor. I hooked it up, takin' my time; no sense lettin' them know how easy this all was.

"Snap it up," Lou hissed at me. "The train's comin'."

"OK, OK," I said.

The guy with the moustache knelt beside me and took a little metal box from his pocket. "This is the detonator," he said. His voice sounded sad, almost like he was about to cry. "Your device must make its relay click at the proper moment. Do you know how to connect the two of them together?"

I nodded and took the detonator from him.

"Tomorrow, the detonator will be placed some distance from your triggering device."

"How'll they be connected then?" I asked.

"By a wire."

"That's OK, then." I figured that if they had tried something fancy like a radio link, in this old tunnel they might get all kinds of interference or echoes. A hard-wire connection was a helluva lot surer. And safer.

It only took me a couple minutes to connect his detonator to my radar gizmo, but Lou was fidgetin' every second of the time. I never seen him lookin' nervous or flustered before. He was always the coolest of the cool, never a hair out of place. Now he was half jumpin' up and down, lookin' up the tunnel and grumblin' that the train was comin' and I was gonna miss it. I had to work real hard to keep a straight face. Little Lou uptight; that was somethin' to grin about.

OK, SO I HAD EVERYTHING READY IN PLENTY TIME. THE maintenance train musta been doin' 2 miles an hour, max, scrapin' down the tracks and scoopin' up most of the garbage in the tunnel as it dragged along. I turned on my gizmo. The readout numbers on the little red window started tickin' down slowly. When they reached the number already set on the other window beside it, the relay on the detonator clicked.

"Bueno," said the moustache, still kneeling beside me. He didn't sound happy or nuthin. Just, "Bueno." Flat as a pancake.

I looked over at Jade, standin' with follo and the other strangers off by the tunnel wall, and I smiled at her.

"Does that means it works OK?" I asked. I knew the answer but I wanted him to say it so Little Lou could hear it. Lou was bendin' down between the two of us.

"Yes," he said, in that sad heavy voice of his. "It works perfectly." He said each word carefully, like he wasn't sure he had his English right.

I got to my feet and said to Lou, "OK. I done my part. Now Jade and me can go, right?"

"No one leaves this tunnel," said the moustache. Still sad, but real strong, like he meant it. He had unbuttoned his suit jacket and I could see the butt of a heavy black revolver stickin' out of a shoulder holster. [Deleted], it would've taken my both hands just to hold that pistol up, let alone fire it off.

"Hey, now wait a minute—" I started to say.

Lou grabbed me by the shoulder and spun me around, his fist raised to smack me a good one. The moustache grabbed his upraised arm and held it in mid-air. Just held it there. He must've

been pretty strong to do that.

"There is no need for that," he said to Lou, low and firm. "There will be enough violence in the morning."

Lou pulled his arm away, his face red and nasty. The moustache turned to me and almost smiled. Kind of apologetic, he said, "It is necessary for you and your lady to remain here until the operation is concluded. For security reasons. Do you understand?"

I nodded. Sure I understood. What I was startin' to wonder about, though, was whether these guys would let us live after their "operation" was finished. I knew Lou was goin' to want to take Jade with him. If these foreigners didn't whack me tomorrow, probably Lou would. Then he'd have Jade all to himself for as long as he wanted her.

So we sat on the crummy tunnel floor alongside the tracks and waited. The foreigners had some sandwiches and coffee with them. Moustache offered a sandwich to Jade, real polite, and one to me. It was greasy and spiced hot enough to scorch my mouth. They all laughed at me when I grabbed for the coffee and burned my mouth even more 'cause it was so hot.

I tried to sleep but couldn't. I saw that the two younger guys had curled up right there on the floor, sleepin' like babies with their rifles in their arms. Lou took Jade off down the tunnel a ways, where it was dark, far enough so I couldn't see them or even hear them. I sat and watched Rollo, hopin' he'd nod off long enough for me to follow Lou down the tunnel and slice his throat open. But Rollo just sat a few feet away from me, his chin on his knees and his eyes on me. Big as a [deleted] elephant.

Moustache wasn't sleepin' either. I went over to where he was sittin' with his back against the wall.

"Why's the Chairman comin' in on a train?" I asked him, hunkering down beside him. "There ain't been a train through here since before I was born."

Moustache gave me his sad smile. "It is a gesture. He is a man given to gestures."

I couldn't figure out what the hell he meant by that.

"Why do you want to whack him?" I asked.

"Whack?" He looked puzzled.

"Kill him."

His eyes went wide, a little. "Kill him? We do not intend to assassinate the Chairman." He shook his head. "No, it is not so simple as that."

"Then what?"

He shook his head again. "It is none of your affair. The less you know about it the better off you will be."

"Yeah," I said. "Until this thing is over and Lou whacks me."

He shrugged. "That is your problem. Not mine."

A lot of help he was.

MY WHISTWATCH SAID 7:27 A.M. WHEN LOU CAME WALKIN' back up the track toward us. His hair was mussed and he had his suit jacket thrown over one shoulder. He grinned at me. Jade came followin' behind him, her face absolutely blank, starin' straight ahead. I figured she was tryin' not to see me.

What the hell, I thought. Why don't I kill the mother-[deleted] [deleted] right now. Stick my blade in his nuts and twist it hard before follo gets a chance to move. They was gonna whack me afterward anyway. I knew it. Keepin' one eye on Rollo, I reached down toward where I kept the blade taped to my ankle. I got nothing to lose, I said to myself. What the hell. . . .

Conclusion Next Issue



Berner fled his inner demons on an uninhabited desert planet for thirty years and was nearly successful—until a devil from Dilvermoon arrived to teach him that the universe allows no escape!

SOMATOYS

BY RAY ALDRIDGE

Illustration by Pat Morrissey

The hermit Berner climbed up to his shrine, as he did every morning at sunrise. The sun's hurtful glare rose swiftly above the surrounding mountains. By the time Berner reached the top of the hill, harsh light filled his valley. The shrine was a bronze statue—a naked woman, life-size. She lay back on a gray boulder, legs spread, hands laced comfortably behind her head, smiling up at the sky. Sharp little knives tipped her small breasts.

"From death into life, from life into death; the same doo," he prayed, so quickly that the familiar words ran together. He lay his forehead against the smooth belly of the shrine, still cold from the desert night. Soon the shrine would be too hot to touch, which was why he performed his devotions at dawn.

He rolled his cheek against the metal, trying to remember how it felt to touch a real woman. Nothing but a sort of abstract revision came to him, mixed strangely with a tenuous longing. "You've been here too long, too long, too long," he told himself, as he did every morning. It was as much a part of the ritual as his prayers.

After a while, Berner pushed himself away from the shrine and went down to his posole pod plantation. He took a hoe and labored among the wiry vines until the sunlight became dangerously intense.

Then he retreated into his cave.

Tawny posole fiber mats covered the walls and floor. A cool spring trickled pleasantly at the back of the cave. Berner owned a hammock, a small library of sacred books, and a good med-unit. He looked around at this comfortable dwelling and felt a desperate surge of boredom.

He took a bowl of posole to his table. After 30 changeless years, the thin gray gruel had lost whatever appeal it might have originally possessed. But it was nourishing, and the pods grew without too much trouble. He stared down into the bowl. "What I wouldn't give for a tomato," he said. "Or even a stinking squash. And I hated squash." He sighed and forced himself to eat.

In his hammock, Berner was settling toward sleep, when he heard the rumble of descending engines. The cave trembled and dust fell from the mats. He rushed to the entrance. Looking out, he saw a squat black starboat at the edge of the posole pod field, descending in a blossom of orange fire.

The starboat stood silently in the noon glare. The posole vines beneath the boat smoldered for a bit.

Nothing else happened.

Berner soon retreated into the relative coolness of his cave. In late afternoon, Berner again ventured to the cave's mouth. The sun still hammered down, and the heat rose from the red soil in shuddering waves. Berner watched for long minutes, gasping in the fiery air, but no one came forth.

An hour after dark, when the air was cooler and the moonless night blazed with stars, he thought he heard a sound from the boat. A scream? Had he heard anything at all? What sound could escape the armored hull?

A little later, the boat's lock revolved and fell open.

A pneumatic gangplank unfurled from the starboat; an impressive man descended. He wore black glitterskin and a silver-thread tunic; he was tall and lithe; he moved with an air of irresistible authority. A mask of gold and silver microscopes cloaked his face—a prosthesis attached directly to his facial muscles, as mobile as the skin it replaced. The features were impossibly noble, inhumanly precise.

Berner stepped cautiously from the cave.

The visitor made an easy gesture of greeting, and strode forward. "Good evening," said the visitor, in a resonant tenor as beautiful as his mask.

"Good evening, sir..." Berner's voice broke.

The visitor smiled, his mask glimmering in the starlight. "A lovely night. It must be one of the compensations of your life here. Where, may I ask, are your companions?"

Berner was unprepared for so direct a question and answered without guile. "There's no one here but me. It's an empty world."

"Oh? A shame. Aren't you lonely?" Dark eyes twinkled within the mask; the voice sang on. "But where are my manners? My name is Warren Manolo Cleet, a citizen of Dilvermoon, on a journey of rest and renewal. And you?"

"Ah... Brother Berner, a lay devotee of the Stringint Mystery?" Berner hesitated a moment. Something more was required of him; he felt it strongly, as if Cleet jerked at him with invisible hooks.

"Oh..." Berner said, finally. "Will you come in?"

So, you're alone here. Have you no other visitors?"

Cleet lolled elegantly at Berner's table. He had taken the only chair, without hesitation.

"The Mission circuit ship stops every five years."

Cleet leaned forward, taut. "Ah? When did the ship last visit?"

"A year ago. Do you know of the Stringint Mystery?"

"Yes," said Cleet, relaxing. "I know of your sect." A sneer trembled on his metal lips. "You worship an idol... a naked demon,

correct? She reclines, her legs are open and her nipples are knives. You regard sexuality as a mortal sin, in the most literal sense. Not so?"

"The shrine is an allegory, not an idol." In spite of all the times Berner had doubted, he resented this sleek Silvermoon's contempt. "It's true, we regard sex with women as its own punishment."

"What of sex with men?"

"There's little theological difference. Men use each other as women. In our view the sin is undiminished by the physiological details."

"I see." Cleet seemed to be struggling not to laugh.

"Why are you a hermit? Others of your sect prosper in the settled worlds?"

Cleet was prying into sensitive areas now, and Berner set his jaw and looked away.

Cleet finally did laugh, a sound somehow unpleasant, for all its silvery perfection of tone. "I understand. Beyond touch, beyond temptation; is that the plan? Did you prove particularly susceptible to the charms of women? Particularly weak in your faith?" Cleet's eyes glittered.

"That's none of your concern, Citizen Cleet," Berner snapped.

Cleet leaned forward, and the hard contours of his mask flowed like molten metal, shimmering with several unidentifiable emotions. "You're wrong." A nerveburn appeared in Cleet's hand. Cleet pointed it at Berner's chest.

Berner stared down at the weapon, horrified. "I've nothing worth stealing. . ."

Cleet grinned. "You think I'm a thief?" He chuckled throatily, shook his head. "No, no. It pleases me to be served, and you're the only servant to be found on this ugly little world, so . . . you must dedicate yourself to a new mystery."

Berner drew back. "I'm sorry. I can't take on any additional responsibilities. My devotions. . . my work in the fields. . ."

"I'm your god now, hermit," said Cleet. He triggered the nerveburn.

Berner found himself suddenly damned. Horror assaulted all his senses. An indescribable sound clawed at his ears, sent spikes of ugliness into his brain. Cleet changed into a thing so hideous he could never afterward remember its shape. His mouth filled with the taste of maggoty rot, he choked on a supremely vile stench. Fire shrieked along his nerves, shuddering waves of agony. The world disappeared. Nothing existed but the pain, it filled his universe from edge to edge, it went on and on, until he had forgotten its source.

When it ended, he lay on the floor in a puddle of vomit and urine, and he was a different man.

"Have you changed your mind?" asked Cleet.

"Oh yes," said Berner.

Cleet allowed Berner to clean himself and put on his other robe, then he took him to the starboat.

The boat was furnished in luxurious style, with deep carpets and soft pastel walls. In the central well of the boat, a slow-spinning stairfield floated them up into the bow. Here the walls were bare alloy, studded with holograph lenses. To one side was a heavy metal door, set with an armorglass port.

A round plastic bladderbed filled the center of the floor. On it lay a naked woman with blood-streaked thighs. She was very still, but she breathed.

"Your first job," said Cleet, and indicated the woman with a languid gesture. "Hose her down, and get her into the med-unit down on the cargo deck." Cleet turned a sharp glance on Berner, and the beautiful mask shifted, displayed a stern expression. "Keep your prong in your pants, hermit. Or rather, under your robe. Yes, yes, I know of your religious prohibitions, which I trust

you still cling to; but heed me—certain of my facilities I don't care to share with the help."

"I haven't touched a woman in 30 years," Berner said.

"That's exactly what causes me concern," said Cleet. He smiled crookedly and left.

Berner stood for a silent moment, confused, wondering how the world had changed so much, so quickly.

He looked down at the woman. She was pale, with tarnished-silver hair, cut short. Her body was smoothly muscled, her breasts heavy, her hips rather narrow. Bruises bloomed under her skin. She smelled of blood and sweat.

One arm was bent beneath her body awkwardly. He bent down, rolled her enough to free the arm. He saw a glint of metal at the back of her neck—the oval mating surface of a personskeln implant. "A beaster," Berner said, repelled.

He glanced around the deck. In a bulkhead locker, he found a hose, stowed on a reel. A bucket held a soft-bristled brush and a soap dispenser.

Warm water sprayed forth when he pressed a button. He scrubbed away the worst of the grime that encrusted her, as gently as he could. When he was finished, he turned the hose on the rest of the chamber. He touched another button and warm air sighed from the hose.

She was soon dry. He lifted her, and she lay motionless against his chest. Her skin had a lovely silky texture, which he tried not to notice.

He stepped into the stairfield, and was carried down to the cargo hold. In one corner a large med-unit waited.

He laid her down on the med-unit's tray. An odd emotion touched him briefly. He frowned. Would he have preferred to prolong that warm contact? "Let's not kid ourself, Brother Berner," he muttered. He slid the tray into the diagnostic chamber.

He stood by the med-unit's port, watching as limpet sensors crawled over her body, assessing the damage. The med-unit's readout panel flickered briefly with amber warning lights, but quickly cooled into steady yellow-green. Berner smiled.

"You should be pleased," Cleet said.

Berner jumped and turned to find Cleet at his shoulder.

Cleet leaned forward, looked into the port. "Yes, you should be pleased. We must hope, you and I, that she remains healthy. If I should use her a bit too harshly and she should die—then I might have to appropriate your stringy flesh. Though it would be a sorry exchange. The med-unit is good enough to implant the skeln interface. . . and make any other changes I might require. Well. At least you have good bones." Cleet winked grotesquely, his mask sparkling. He reached out, touched Berner's cheek. Berner edged back.

Cleet transferred his attention to the woman. "She's a pretty little thing, my Candypop. Isn't she?" he said. "An alloy clone. Her cellmother was a beauty queen on some backwater agworld. Think of it—a million farmers would have laid down their manure forks to court her—and she's my very own somatoy. . . ." Cleet sighed. He appeared to take no pleasure from this observation.

He turned to Berner. "Come. I'll show you your place."

Berner hung back. "I'd prefer my cave, if it would please you." Cleet's mask became an inhuman and incomprehensible surface. He jerked his arm and the nerveburn appeared in his trembling hand.

Berner hung his head. "As you wish," he said in a thin voice. He tried to conceal his rage, but not his fear.

Cleet's mask rippled, regained a semblance of humanity. The nerveburn disappeared. "Wise," he said.

Cleet took him to a cubicle. "You'll wait here until I call," said Cleet, and left. The door swung shut with a click.

Berner pushed at the latch, was unsur-

prised to find it locked. He looked about. A canvas pipe berth hung on one wall; in the corner were a sink and toilet. A dark vid-screen over the door completed the furnishings. Light came from an overhead panel; after a minute it dimmed to a faint red glow.

Berner lay on the berth and waited for sleep. A long time later he felt an urge to perform his devotions. Evidently morning had arrived.

The light panel grew brighter. Strange, he thought. In yesterday's dawn he had gone up to the shrine and worshipped, as he had for ten thousand mornings. He had loosened the dust around the posole vines, had gathered the ripest pods. That routine should have continued until he lay down for the last time.

He had imagined his old passions to be thoroughly quenched in the emptiness of his world, his fascination with the flesh lost to the slow abrasion of unchanging days and nights.

He thought of the woman and wondered if he had been a great fool.

Hours passed. Finally the vidscreen lit, and Cleet's gold and silver face looked down at Berner. "Awake?"

"Yes," Berner said, sitting up on his berth. "May I return to my cave? I'm a little hungry. I could have breakfast there, or fetch back a stock of posole, if you preferred." He hated the subservience in his voice, but he was still terrified of the nerveburn.

Cleet smiled, an oddly empty expression. "You will never return to your cave, hermit." He shook his head, slowly. "But you may take your breakfast in the refectory; I've finished. When you're done, come up to the astrostation deck. We'll have a discussion."

The screen blanked and the door sighed open.

Berner found the refectory, a long cabin that followed the curve of the starboard hull. A narrow strip of tinted armorglass ran along the outside wall. Berner looked through the glass. The posole vines drooped gracefully in the gathering heat, and the black mouth of the cave seemed a lost haven, unbearably sweet in memory. Berner was taken by regret so strong his eyes watered.

Eventually he turned away.

At the far end was a counter, cluttered with dirty dishes. Berner sat at the counter. Shutters slid back to reveal the terminal of an autochef. He ordered something called proolie, which turned out to be cooked grain, sprinkled with a bitter yellow spice.

When he finished, he stacked the dishes in the sanitizer. He went to the starfield and floated upward until he reached the astrostation deck, which identified itself with a flashing prompter.

Cleet stood before a hemisphere of smoky armorglass, looking out over the badlands, a pensive expression smoothing his mask. "Ah, hermit," he said, turning toward Berner. "Can you make civilized conversation?"

Berner stood awkwardly, hands knotted together. "I don't remember," he said finally. "It's been a long time."

Cleet laughed. "You are at least honest and unassuming, two useful virtues in a person of your station—though such attributes would seem grotesque in a person of my station. Wouldn't you say?"

Berner could think of no safe reply.

"Never mind," Cleet said. "I won't expect too much of you. So. Tell me how you came to be here. Be brief, be accurate, be entertaining." Cleet's mask now showed no emotion at all. "Sit down," he ordered, pointing at a bench that ran along the hull, beneath a bank of storage slots.

Berner sat. His mind was empty of words. Cleet watched him expectantly, eyes fluidly alive in the cold metal of the mask.

Finally, Berner spoke. "I came here 30 years ago..."

Immediately, Cleet interrupted. "Think of it! Thirty years of nothing. But tell me of your life before you came here. Remember, you must amuse me."

"I'll try..."

Cleet turned away, appeared to fix his attention on the badlands outside. "Continue."

Berner cleared his throat. "I was a miner on Silverdollar..."

Again Cleet interrupted. "Silverdollar. Isn't that a cold world? Ice and snow? What beasts live on Silverdollar?"

Berner remembered the ice fields, the drifting smokes, the distant white sun. "Many animals live on the ice," he said. "Roveroes, sealynx, white snowlions... I killed one of those, my last winter on Silverdollar. It broke through the baffle over my vertical shaft and came down, looking for food and warmth. Found me asleep in bed..."

Cleet chuckled, shot him a swift sideways glance. "With a friend? Oho. Thus we have the reason for your religious impulse? How banal, how predictable, how like a bad sensidrama. She failed to survive, no doubt, and this tragedy impelled you into the skinny arms of the Stringent Mystery. No?"

"That's the gist of it." Memory played on: the sound of the animal's breathing, the corrupt stench of its breath, the wrenching of its teeth in his flesh. A shudder twitched through him.

"Well, spare me the details. Your lover died from bad locks, not bad sex; can't you see this?" Cleet spoke peevishly, returning his gaze to the badlands. "Tell me of the snowlions. What are they like?"

Berner shut off his memories. "They're not much like lions, really; they're long and thin and very quick. They weigh up to a thousand kilos, and older males stand two meters or more at the shoulder. They have certain otterlike characteristics, if you can imagine an otter that hurts small whales. Well, not really whales, but that's their niche..."

"Never mind the whales. How do the snowlions breed?"

"They spawn in geyser sloughs, birth free-swimming larva, so I understand." As he spoke Berner glanced toward the nearest storage slot. He was astonished to see the grip of Cleet's nerveburn protruding from the slot, within easy reach. He looked at Cleet, who seemed oblivious. No, he thought. It's a trap, it's too easy. Would Cleet be so careless? No. The nerveburn was surely discharged, or otherwise disabled.

"Continue," Cleet snapped.

"I'm sorry. I'm no biologist." He forced himself not to look at the nerveburn.

Cleet hissed, a sound of exasperation. "You're as dull as I feared." He moved with blurring speed, scooped the nerveburn from the slot. "It took you five minutes to notice it, and then you were terrified. Did you suspect a trap? Did you? So what? It was a chance, your only chance, and you did nothing. What sort of jellyfish are you?"

Berner hung his head. Cleet was right, he should have tried.

Cleet's voice became softer, more introspective. "Surely you've understood that you're not likely to survive my service. Isn't my nature clear to you? So why not take the chance? Why not? Any other animal would have taken the chance."

Cleet opened the butt of the nerveburn, slipped out the power cell. Its charge indicator glowed a bright poisonous green. Cleet slid it back in, snapped it shut.

Berner stared at the nerveburn longingly.

"Well, you were right," Cleet said. "It was a trap; I wondered if you'd really learned your place. You could never have beaten me to the nerveburn. I'm much too fast for you. I own the best bodymods money can buy."

Cleet pointed the nerveburn; his finger trembled on the firing stud. "I could punish you for your cowardice," he said. His mask flowed into repose, cool and distant. Berner half-turned, raised his hands in useless defense. Cleet flicked his hand and the nerveburn disappeared. "But I won't; I'd never get the smell out of here. Besides, now that we know what a coward you are, we'll all be able to relax, won't we?"

The breath sighed from Berner.

"You're a weak animal, hermit, but we're all animals, no more and sometimes less." Cleet looked again at the badlands. "Often less. Animals live, mate, die, with no thought for the time to come or the time past. They burn brighter than most sapient creatures. You wonder at my certainty? Then I'll show you what I mean. Go fetch Candypop; hers is the pink door on the cargo deck."

"Where should I bring her?" asked Berner, feeling completely defeated.

"To the bed, of course."

Berner tapped at the heavy alloy door, but his knuckles made almost no sound. Still, the door opened very quickly, and Candypop stepped out, still naked.

"Yes," she said, in a resonant contralto. He saw that her eyes were a clear deep amber and that she was a great deal more beautiful than he had realized. Vitality glowed from her—an astonishing thing, under the circumstances.

"Cleet sent me to fetch you," he mumbled.

"All right," she said. When he didn't immediately move, she took his arm in a firm grip and turned him toward the stairfield. "Let's not keep him waiting," she said. "That would be stupid." She walked toward the field with long graceful strides. Berner hurried to keep up.

"I'm sorry," he said, as they stepped into the field and floated up.

"For what?" She seemed genuinely curious.

"For running his errands. . . whatever they are." Berner was trying to bank the fire of his anger, to preserve it against a time when he could fan it into a blaze.

"Don't be silly," she said, just before they reached the top of the field. "Who could resist such a great monster?"

She walked in and seated herself on the plastic bed, as if she had done so a thousand times before. Berner admired her bravery; he wished he could feel as unafraid as she seemed to be. "Now," said Cleet to Berner. "Let me show you my library." He went to the locked door, pressed his palm to the lockplate. The door hissed, moved aside.

Berner followed Cleet into the small room. Cleet turned, waved his hand in a gesture that took in the entire room. Banks of small stasis chambers made up three of the room's walls; there were thousands of the little glass-fronted boxes.

"My collection," Cleet said, mask shimmering with delight. "Here," he said, touching a chamber faceplate. It lit, displaying green characters in the angular Dilvermoon script: *SUCCISA PRATENSIS*, Male and Female.

"You don't understand?"

"No, Citizen Cleet," Berner answered.

Cleet touched another faceplate, which displayed: *TURSIOPS TRUNCATUS*, Male and Female. "Personaskeins, hermit! An inheritance from my grandsire, who was also unusual in his tastes." Cleet thrust his face close to Berner's, and Berner smelled perfumed decay, as though Cleet were rotting away behind the beautiful mask. "The blood runs thicker in me than it did in my ancestors. In here I keep the souls of ten thousand creatures. Mostly terrestrial lifeforms, though I own many alien ones too." Cleet laughed and pushed at the faceplate, which folded in. Cleet snatched out the two personaskeins that lay in the chamber, two scarab-shaped oblongs of metal and red plastic.

Cleet went to the door. "I won't lock the door. But if you interrupt me, you may expect pain. You may watch, if you wish to understand." An undecipherable expression slid over the golden mask. He went out, closing the door behind him.

Berner at first resisted the urge to look through the armorglass port. He stood before the inner wall and touched faceplates. He discovered that a second touch would display a labeled image of the creatures whose psyches were bound in the personaskeins within. Here were tigers, there crocodiles, over there fanged alien predators with six long legs and gorgeous feathers.

A third touch displayed a scrolling description of the alien predator's mating behavior. Berner watched for only a moment, before shuddering and turning away. He hoped Cleet would not use that particular set of personaskeins; the woman would not survive the experience.

A lovely blue luminance drew him toward the port. He went, though he felt a premonitory disgust with Cleet—and with himself for not resisting so ugly a curiosity.

The holoprojectors had created an underwater world. Tall green-black strands of kelp waved in lazy currents. Tiny silver fish glittered among the fronds. The blue light fell through the kelp forest in streaming rays, illuminating the two who floated in the center of the transformed cabin.

Cleet's long body was heavily muscled, as if Cleet spent much time in a tissue simulator. The woman's rich mouth bore a wide, fixed smile. She swam in Cleet's embrace, accommodating his thrusts with swift graceful movements. He shuddered, and a stream of silvery bubbles came from her laughing mouth.

Berner turned away from the port, somehow sickened, though he had seen nothing brutal or evil. He sat down in one corner and composed himself to wait.

When Cleet came for him, he was nodding with sleep. Cleet nudged Berner with his boot, and Berner shook his head.

He jumped to his feet. "Sorry," Berner said.

Cleet's mask bore a quirky expression, as if Cleet was somehow exasperated with Berner. "You found my performance boring?" Berner hardly knew what to answer.

"Never mind," Cleet said. He replaced the personaskeins in their stasis chamber. "To work."

He led Berner out into the cabin, where the woman lay motionless on the bed, looking up at the ceiling.

"You know what to do," Cleet said. "She won't require the medium tonight; just clean her up. Oh, and this time, see that she combs her hair. Perfume her; make her lips red. Take her to her room on the cargo deck; you'll find what you need. Make her presentable. Then go to your own cubicle. I don't want you underfoot."

When Cleet was gone, Berner unreeled the hose from the bulkhead.

When the water sheeted over her, the woman jerked and rolled away. "Stop for a moment," she said in a muffled voice. "I feel like a prize hog, just out of the wallow. Were you a hog-washer in another life?"

Berner shut off the water. "Not that I remember," he said apologetically.

She sat up and rubbed her hands over her face. Her hands trembled. "Let me stand, at least."

"Of course," said Berner.

While he held the hose so that the water fell gently, she scrubbed at her body with the brush, until her pale skin was pink.

He watched in unwilling fascination as she dried herself in the warm air, her body moving slowly from one graceful pose to another.

"All right," she said, finally. "Let's go back."

Her cabin was a dusty place, with a littered vanity in one corner and no other furnishings but a bed. The bed had a shallow woman-shaped cavity and a transparent cover. She sat down on the edge of the bed, seemingly at ease.

He found a pot of lip paint and a jeweled comb on the vanity. He held out the comb uncertainly. She shook her head calmly. "Would you be so kind?" She turned away, back straight, head up.

He lifted the comb and drew it through her hair; it caught in a tangle. "Be careful," she said. "Can you believe it, there was a time when I could sit on my hair. I kept it in a braid as thick as my arm and only let it loose for my lovers."

He worried at the tangle, concentrating all his attention on that problem, so that he would not notice that he was touching a beautiful naked woman.

Gradually the tangle yielded to his efforts and her hair lay sleek and shining.

He stopped, feeling a powerful urge to continue. She turned back toward him and looked into his eyes with a frank curiosity.

"You were gentle," she said. "But Cleet told me that you were a devotee of a cult that hates women."

"No," he said. "Not women. Only the act of coupling with them. Women cannot help what they are." He felt a curious detachment, and his pronouncement seemed suddenly a bit foolish, a bit naïve.

Her regard cooled. "What are they, do you think?"

"Gateways into life... but also gateways into death." His words felt as thin as paper.

Suddenly she smiled, an odd quirk of the mouth, a bitter amusement. "Well, in my case you're at least half-right. Bed me and Cleet will kill you."

He didn't know what to say, then. After a while he fetched the lip paint and the little fine-pointed brush that lay beside it. He offered them.

"Try your hand," she said, and closing her eyes, she lifted her face.

His fingers steadied, as the brush traced the relaxed curve of her mouth, and he felt a rush of some almost unendurable emotion. It's not lust, he thought. I've forgotten how to feel that, haven't I?

"And perfume, he said," she reminded Berner, when he was done. He had done a passable job with her lips; they glowed a velvety crimson. An odd memory jumped into his mind; he recalled that on some worlds, fashionable women painted their nipples.

He turned away and searched among the perfume vials that crowded the vanity until he found something he liked, a sweet flowery scent with an earthy subnote. He wet his finger with the perfume, touched the pulse at the base of her throat—then, after a moment, the soft fine skin between her breasts. He snatched his hand back, as though she might burn him.

"Sorry," he said, feeling his face burn.

"I'm somewhat injured," she said, laughing low—it wasn't a sound with any humor in it. "You'd have to take far more brutal liberties before you'd earn my enmity."

Abruptly she slumped; a great weariness filled her eyes. "Well, now I must sleep—and let the bed feed me—if I hope to recover my strength. It hurts more when I'm tired."

"How can you be so matter-of-fact?" Berner felt a strong simple pity for her.

She shrugged and didn't answer.

Finally, he sighed and stood. "Myself, I'm so afraid of Cleet that I can't feel anything else."

"Cleet knows how to control his possessions—that's his great genius." She lay down, lifted her legs into the bed's recess.

"You must hate him," he said, and was immediately embarrassed, that he had made so foolishly obvious an observation.

"Hate?" she murmured. "Do I hate him? I don't know... that would be like hating the typhoon that sinks your boat, the disease that steals your health. Like hating death or pain. A pointless exercise, don't you think?" She shut her eyes.

He closed the bed's cover and watched as tendrils crept forth from hidden recesses. Thick plastic worms full of nutrient fluid attached themselves to her wrists. Wires no thicker than silver hairs sunk into her flesh in dozens of places. Her body began a subtle rippling movement, as the bed worked at maintaining her muscle tone. She smiled, her back arched slightly.

She moved as if in the embrace of a ghostly lover.

He turned and fled to his cubicle.

Cleet released him from his cubicle at irregular times, allowed him to eat, and then ordered him to fetch the woman.

More and more often Berner succumbed to the temptation to watch. He told himself it was the holoprojection that so fascinated him; each time the chamber became a

different world, lovely or terrible or incomprehensible.

Sometimes Candytop seemed to take an ambiguous pleasure in the act, face trembling between shame and desire, between smiling and crying. Sometimes she screamed continuously, her features rigid with fear and horror. Most often her expression was unreadable.

After her personakin timed out, she often lost consciousness for a while. The most alien of Cleet's creatures put her into a coma-like state, sometimes for hours.

Occasionally she emerged uninjured, but usually Berner would have to carry her to the med-unit to be treated for contusions, sprains, and minor fractures.

"How can you stand it?" he asked one morning as he helped her from the tray.

She shrugged. "What are my alternatives?"

"I don't know," Berner said, reluctantly. It seemed monstrously unfair. She seemed a kind and guiltless person, undeserving of so ugly a bondage. "Doesn't it ever get any better?"

"Has Cleet given you his lecture on the cyclic nature of wealth? No? Well, cruelty has its cycles too." She smiled wearily. "Sometimes he dresses me in jewels and gives me gifts and acts like an adoring husband."

"That's better, isn't it?"

"Not really," she answered.

As the weeks passed, Cleet became less talkative, seemed to find less entertainment in shocking or terrifying Berner.

He now occasionally missed a night with the woman, and toward the end of this time, went days without taking her to the forepeak. He spent much time on the astrogation deck, apparently occupied with his thoughts.

Cleet no longer locked him in his cabin, apparently assured that Berner was harmless. In any case the stairfield would not permit him access to any secured areas, so that Berner was confined to the cargo deck and the upper deck. He grew restless.

Once Berner visited the woman as she slept her enforced sleep. She seemed irresistibly beautiful, lying in her jewel box of a bed. He left before she woke and never again violated her privacy.

He desired the woman; this he was finally able to admit to himself. He pitied her, an emotion that soon outgrew the desire. But finally neither desire nor pity seemed appropriate; she was, like him, just another trapped animal, a toy. For all her beauty, for all her bravery.

He found his only entertainment on the upper deck, browsing in Cleet's library of souls. Hour after hour he watched the displays, and sometimes it seemed to him that the universe was full of nothing but copulating animals, all frantically eluding death in the only way that lay open to them.

Cleet occasionally allowed him to dine in the starboat's wardroom, at a long black lacquer table. Berner's place was near the foot of the table.

Usually Cleet ate in watchful silence, studying Berner with an impersonal intensity. But tonight Cleet was talkative.

"So, hermit, tell me of your creed. The weak invent such religions endlessly, justifying their weakness. But no sex? That seems universally unappealing; how do you attract converts?"

Berner looked warily at Cleet. "Wisdom comes unbidden to the chosen."

"Ah? Then you would say that I am unwise? Or unchosen?"

"I wouldn't presume..." said Berner, looking down at his plate.

"Quite right! But please, elucidate freely. Perhaps you'll convert me. Why must we refrain from sex?"

Berner drew an unhappy breath. "I can only quote the Nameless. 'Consider the amoeba. Does it die? It knows not the ephemeral pleasure of coupling, nor the eternal terror of the grave.'"

"No animal fears death," Cleet said this in an almost gentle voice.

"Perhaps not, until death is upon it. Then . . ."

"But the Nameless, was he not martyred?"

"Yes, on Aragon, by a mob of angry whores. Our belief does not promise unending life in this body, though dedicants have recorded remarkable spans. Accidents occur, violence endures. It's the life of the soul we hope to preserve. We're realists."

Cleet laughed his beautiful unwholesome laugh. "Realists? Tell me, how old are you?"

Berner hunched his shoulders. "One hundred and seven standard years. But I came late to the Mystery."

Cleet laughed again. "An infant. A grizzled gray infant. You might have lived another hundred years here—if that long. I saw your med-unit; very basic, very basic indeed. I was born 863 years ago, on Green. And I've had ten thousand lovers, at least; I am the more youthful for it. What of your realism, now?"

Berner had no answer.

"I know what you're thinking," Cleet said. "You're thinking, 'wealth.' And you're right, of course. The wealthy need never die, so why should we ponder the state of our souls? Have you an answer?"

"No," Berner muttered.

"No, of course you don't." Cleet seemed to turn his thoughts inward, and a stillness spread over his shining mask. "But you're thinking, 'If Cleet is so wealthy, what is he doing in this empty world, with a dull religionist for a servant?'" Cleet's shoulders twitched, and he blinked his eyes rapidly. "You have no personal understanding of wealth, so I excuse your ignorance. Wealth, you see, is cyclical. The truly wealthy move through these cycles; amassing, then spending. Of what use is wealth, if it cannot buy amusement? And the wealthier one is, the more expensive one's taste in amusements."

Berner was terrified by Cleet's expression, at once despairing and enraged. He stared down at the remnants of his meal and hoped that Cleet would not temper his pain with Berner's.

But Cleet's thoughts were elsewhere, occupied with some bitter remembrance. He continued to speak musingly. "So, I find myself at an ebb in the cycle. I own nothing but this wretched boat, a piece of pretty meat, a few games—and you, of course. I would take the boat to Dilvermoon and sell it, if I could, but it's keyed to my persona and would die without me. Also, jealous enemies dog me, and Dilvermoon is unsafe, just now."

"This is as good a place as any to wait, until I've made new plans. Why charge aimlessly through the void?" After a while he smiled, as if his memories had taken a more pleasant turn. "My grand-sire gave this boat to me during my Manhood Year, so long ago. So long ago. A month later I poisoned him and took my inheritance. Became a man in truth."

A silence ensued. After a time, Cleet rose and went up to his private suite.

Berner hid his face in his hands until he stopped shaking.

That evening, Cleet wore the mind of a great snake that dwelled on a world of sand and thorns. He was especially savage with the woman, so that when he was finished, she was bloody.

Berner hid his anger when Cleet called him from the library. "To the med-unit?" he asked.

"Why not," Cleet said, with an air of boredom, and went away.

"I wasn't always a coward, Candypop," Berner whispered, while he helped her wash.

She looked up at him, smiling a little. "Why do you call yourself a coward? What could you do against Cleet? He's not a man anymore, he's too strong, too quick, too cruel. No unaltered human being could best him."

When he assisted her to her feet, she sagged against him and

he felt the pressure of her breast against his side. To his shame, he felt a twinge of desire.

The med-unit treated her quickly—apparently her wounds were superficial—so Berner was able to walk her to her own cabin a few minutes later.

Cleet came in behind them, moving on noiseless feet, starting Berner.

He looked down at Candypop. "You know, don't you?" Cleet said, in a soft, musing voice.

Berner understood that something important was occurring, some ritual exchange. Some dire message had passed between Cleet and Candypop.

Cleet fixed his stare on Berner. "Things change, hermit. You've noticed this, even in your short life. We won't be here much longer."

"What do you mean?" Berner could not seem to get his breath.

"I've been away from my life for too long. And I've tired of my Candypop." Cleet shook his head, looking oddly diminished. "Old toys," he said, in a voice so low that Berner barely heard the words.

He went silently away, and Berner picked up her hairbrush with a trembling hand.

Candypop looked up at Berner. Her face seemed astonishingly unafraid. "Pay no attention, Berner. He likes to frighten people; that's his hobby, you know. Before he leaves, he'll put you out and let you go back to your old life. Just do nothing to make him angry. Never act contrary to his expectations and you'll be all right. He's not a casual murderer. You'll survive, Brother Berner."

He wanted to believe her. "He's threatened to morph me into a woman, if . . ." His fear shamed him; he was sick with it.

"If I die?" She shook her head. "Don't worry. That will never happen, believe me. I mean no offense—probably you'd be a handsome woman—but Cleet has very . . . specific tastes. Oddly enough."

"But he sounded . . . he really sounded as if he means to kill you."

She nodded, still inhumanly calm. "Of course he means to kill me. That won't be a first. He's owned me for a long long time. But afterward, he'll put me in the med-unit, and it'll put me back together, good as new. As I say, he's really not a murderer; it's not murder if you don't stay dead, is it? He'll never get rid of me; I'm the perfect woman, For Cleet. But you'll be all right. Believe me."

Berner was suddenly sure that she spoke the truth. "That's awful for you," he said.

"It's not so bad," she said, shrugging her lovely shoulders. "I never remember being dead." But then her composure slipped a little and her eyes darkened. "It's the dying that hurts."

Berner went to his bed full of pitying admiration. Sleep eluded him for a long time, but when he finally slept, a terrible dream seized him.

The dream followed no logic; disconnected images floated across the stage of his mind. Nor did Berner himself play any part in the dream. He was an observer, entirely without volition.

Candypop's strong face watched him, from some inner distance. He seemed to perceive her only out of the corner of his eye, but she was the heart of the dream. After a while he noticed that the beautiful flesh that cloaked her skull had grown translucent, so that white bone glowed through. Murky expressions swirled through the translucence—a river of secret emotion, flowing over pale stone. Behind the lovely eyes black caverns. Behind the lush mouth the long sad teeth of the dead.

In the dream's foreground Cleet struck a series of awkward poses, in a slow ritual. His eyes at first were dull. His mouth hung open, slack. He seemed possessed by an interior life, as if another creature inhabited his body, one not quite human and unsure how the human body was supposed to move. Now Cleet stood on one

foot, the other foot lifted high, his arm twisted behind his back. The arm rose, appeared to dislocate, and became a spine thrusting from the back of Cleet's neck.

The dream shimmered and Cleet was a poisonous fish, a warty horror with frayed fins, eyes as lifeless as pebbles. And at the same time he was still Cleet, and Berner felt a chilly shock of recognition.

From her distance Candypop watched soberly, her skull lit by an inner fire.

Cleet twisted and became a man again. He dropped to a spraddle-legged crouch and Berner saw a spider. Then a snake. A shark, a hyena, an alien thing with horns like razors, a tentacle monster of the deep. With each transformation, Berner felt an acceleration of terror. He needed to scream; his throat ached as though it would burst.

But he couldn't scream, couldn't flee, and his helplessness seemed to attract Cleet's attention. The monster now watched Berner with glittering eyes. The transformations took on a shuddering urgency, the shapes changed faster and faster Berner could no longer identify the shapes; all he could see were the eyes, which began to draw closer.

He was certain that he was about to die. He tried to shift his attention to Candypop... and then he saw something that saved him.

Up through the skull and its waning film of beautiful flesh, another face rose. A young woman, smiling, full of joyful life. Her eyes were warm and innocent. Trusting.

He struggled to recognize her.

By some miracle he was seeing Candypop as she was before Cleet had possessed her.

His terror faded, replaced by a wrenching sorrow.

He woke with tears on his cheeks and an irresistible urge to see her.

By the time he stood over her bed, his tears were gone, but not the pain. She lay still, and in the artificial composure of her drugged sleep, he could see the young woman of his dream. He glanced at the bed's timer. In a few seconds the tubes and wires would withdraw from her body.

The bed clicked and hummed. The hardware dropped away. Her eyelids fluttered, and Berner was seized by a dangerous impulse. He felt driven to perform some act of tenderness, however small, so he bent over her bed and touched his lips to hers... feeling an absurd pleasure, feeling a giddy terror.

She woke as he kissed her, but her only reaction was an infinitesimal shake of her head.

He nodded, but he bent over her again and pressed his cheek to hers and whispered, "If I could do anything, I would, I would."

"Yes," she said softly. "I believe you. Yes." Her hand came up to touch his face, a cool, brief contact.

"Yes?" roared Cleet, at Berner's back. "Yes? Yes, what?"

Berner sprang away from the bed, but Cleet swung his heavy arm and knocked Berner sprawling into the corner. In Cleet's hand the nerveburn twitched, and Berner readied himself for a descent into hell.

Cleet's voice dropped into a rumbling register Berner had never heard before. "What did I tell you, hermit? Can you remember?"

Berner couldn't speak.

"What did you tell him?" asked Candypop in a low, amused tone.

Berner glanced at her. She perched on the edge of her bed, her body arched into an oddly provocative pose. Her face was full of sly triumph.

Cleet turned toward her. "I might think an unpleasant thought," he said slowly. "I might think you were taunting me. I might believe you seduced the lout just to annoy me."

"Really?" She laughed, and it was an ugly jeering sound. "You didn't really think the little coward would ever have defied you. Without a great deal of... help. Did you?"

Cleet fired the nerveburn.

Berner watched her flop and flail, her shrieking face contorted into an inhuman shape. All her beauty lost. He wanted to turn away, but he couldn't.

When it was finally over, Cleet left without another word. Berner helped her to the med-unit and lifted her into the tray. Before he slid it in, he took her hand. "Why? Why did you take the blame?"

Her shoulders lifted in an approximation of a shrug. Her voice was a hoarse whisper. "He might have killed you, and what a silly waste that would have been—he's almost ready to let you go. Besides, I'm used to it."

"Thank you," he said, unsteadily.

Again the tiny shrug. "In a thousand years, what will it matter?"

In the library, Cleet lingered over his selection. "Which should I pick, hermit?"

Cleet opened the box labeled **HYAENA EXTRO-BRUNNEA**, took out the skins, weighed them in his hand, watching Berner with opaque eyes. "Shall I use these?"

Silence stretched out, and Berner felt the tug of Cleet's will, impelling him to answer. "It would be presumptuous of me to offer an opinion," Berner said, finally.

Cleet smiled. "Very good. Well said; I knew you were trainable. I think I'll wait one more night for these." He replaced the skins, took down another pair. "Tonight, something sweet, I think. Gentle. For contrast."

When Cleet had gone to her, Berner tapped the faceplate behind which Cleet had replaced the hyaena skins. He watched the display, sickened.

Over a scrubby plain, the beast shambled on six stumpy legs, heavy-shouldered, armored with mud-brown fibrous plates. Tufts of hair grew in sparse patches. Its head was naked, its fangs curved up past its porcine snout, its eyes glowed with some intense excitement.

It stopped, tossed up its head, nostrils opening wide. An instant later, it set off at a windmilling trot, and foam lathered its muzzle.

It caught the female in a grassy swale. The female, whose belly sagged gravely, was smaller and less agile. She whirled to face the male. But he rolled into her, knocking her sprawling, exposing her belly. His fangs slashed, and an instant later her belly gaped open. A greenish crawling mass moved within her, began to spill out. The male stood over the body, spraddle-legged, and a dozen slender organs extruded from flaps in his chest. Streams of yellow fluid splattered down on the mass.

By the time the female was thoroughly dead, the mass had differentiated into a swarm of small maggot-like creatures, which began to feed on their mother's corpse.

Berner turned away from the display. It seemed a hideous process, though no doubt the beasts saw it differently. He thought of Candypop, lying empty and dead under Cleet. How could Cleet do such a thing?

Cleet took the skins from the box labeled **HYAENA EXTRO-BRUNNEA**. He looked at Berner, mask unreadable. His eyes closed for a moment, then opened, and an uncertainty lay under the glittering anticipation in them—or so it seemed to Berner.

"Never mind. Never mind," said Cleet, with a violent shake of his head. "After we're finished, I'll let you go. Back to your cave and your brazen woman and your superstitions. You did your best, such as it was."

Continued on page 72



Mirror, mirror, on the wall
What *really* happened, after all?

MIRROR, MIRROR ON THE WALL

BY CONNIE HIRSCH
Illustration by Chris Angrisani

Come closer. There, I'm not going to hurt you—just lift the cover off me again. Well, leave it on if you feel better—I can talk perfectly well this way. You are a maid in this castle, correct?

Don't be frightened. Haven't you ever heard of a talking mirror? Yes, I'm that talking mirror, owned by Queen Adorée, all those years ago. Not that I can blame Snow White for covering me up in this lumber room. Well, I *can* blame her, but I have to say I understand her motivations, even if I wasn't to blame for all the nastiness.

Truly, I was not to blame.

Well, yes, I did offer advice.

And yes, I must admit to telling Queen Adorée just where Snow White was staying.

No, *wait!* Please, allow me to explain. I'm a magic mirror; I reflect the personality of my questioner, and I must reflect what they want. You yourself strike me as a person who likes her questions answered.

Truly, it was nothing personal between me and Snow White. Please, pull up a chair and let me tell you how it was. Could you not remove the cover—it would be much easier if I could show you—well, suit yourself. I certainly don't mind.

Now, once upon a time when wishes came true, I was a present for Queen Adorée (just Adorée Du Mont back then) from her father, who'd bought me from a traveling peddler, who traded me from a gypsy, who'd gotten me off a Saracen—well, I could go on about my provenance, but it doesn't truly relate: this story starts when young Adorée unwrapped and stared into me for the first of many times.

What beautiful fair skin, curling red hair, green eyes, heart-shaped face she had, all the better for her being only 16. The

poets who tell my tale these days forget that I always answered Adorée true.

"Hello," I said, "my beautiful lady,"—for I was as enchanted as she.

Young Adorée stared back into me, into her wide-eyed reflection, so young and startled, so innocent and vulnerable. "Hello?" she said, just as you did now. "Did someone speak?"

"It is I, your servant of the Mirror," I said. I showed her visions of castles, gardens, treasures, ending with a picture of her in a crown, regal and utterly perfect. Then I faded to her present visage. "Such as this can be yours if you desire," I said. "Tell me, what is it that you want most?"

She blushed most prettily, did my lady. "I just wish—I wish I was beautiful," she said shyly.

"Why, you are," I said. "You are surely among the most beautiful of women."

"Really?" she said. "That is exactly what my parents tell me, but they say it of my sister—and Harriette has spots. So you see, it is nothing I can trust."

"Ah," I said. I showed her a vision of the loveliest women of the day, coming back to her. "Now, if you were to change your hairstyle . . ."

It wasn't merely hairstyle that we worked on, of course. There was skin care and makeup, wardrobe and accessories, diet and healthful exercise, and then we branched into deportment, flirtation, and charisma, the ineffable qualities of beauty.

Perhaps I made it too much of a game, telling her she was climbing the rankings. Each night, she would brush out her now luxurious hair, while I would show her the most beautiful, and we would analyze how this or that detail could be improved upon to my lady's advantage.

Perhaps the game contributed to her vanity. It was never enough that her mother and father praised her beauty, or that her swains fell rapturously at her feet. Somewhere beneath the sophisticated butterfly was the caterpillar still looking for assurance, and strive though I did to reflect back the truth, to build up her self-worth, to act as confidante and adviser, it was not enough. Or perhaps it was too much.

I still remember when she finally asked, "Who is the fairest in the land?" in the privacy of her bedroom, in a lacy peignoir dyed to match her strawberry-tinted curls. The vision I gave her that night was her own, radiant, exquisite. "You are," I replied, and her smile was all the reward I wanted from my beautiful lady.

We spent the next few years playing our game, growing up. Mere lessons of beauty culture were exhausted; I taught her the magic I had learned watching my former masters; we learned more by spying on contemporary magicians.

It was then that I first began to have my doubts about my lady; she was becoming so... competitive. "True" beauties are rare indeed; most of the really beautiful work at it; shape themselves like works of art, like living paintings and sonnets. I wanted to warn Adorée the first time she changed one beauty's night cream to squid ink, but it had been a trying day for my lady—so humid that her hair had not taken a curl. And truly, it was such a mild prank, and she had taken such joy that it brought a lovely rose to her cheeks, which I was pleased to point out.

A mild prank, indeed, but more pranks followed and not all of them so mild. Still, who was I to complain? I was meant to give pleasure, to be a confidante, not to pass judgment. Surely you understand this, no?

Now that she had her beauty, Adorée made her plans to marry; it was a king or nothing; none of this marry a prince and hope his father might die early. There were likely prospects in nearby kingdoms; however all of their wives were healthy and well-protected by enchantments. After some searching, Adorée happened upon this little kingdom: King Alfred only had a daughter who could easily be supplanted by a male heir; and his first wife was already ailing.

It was more of a mercy killing than anything else. All the doctors had been able to do was prolong the poor woman's life. Adorée and I made sure she went in her sleep, poor thing, with no pain or suffering.

The requisite year of mourning had to be waited out, of course. Adorée and I watched anxiously, getting our plans ready, nervous lest some other social-climbing woman aspire for the position of queen. My lady moved to an estate in the kingdom and made sure she was present at all official ceremonies King Alfred was obliged to perform.

At last came the ball that officially marked the end of mourning. King Alfred appeared, still dressed in black. Adorée curtsied before him, and when he reached forth a hand, she reached out her own, cleverly concealing the tiny needle tipped with the most profound of love potions. A prick and he was hers, even if he knew it not; for it was a potion slow in action, building mightily through the hours and days of separation. If Alfred had acted immediately, like some love-struck calf, suspicious minds might have wondered.

Soon King Alfred was wooing my lady, soon the wedding, soon my lady the queen moved into the castle. Snow White accepted her new stepmother dutifully, but sadly; one could see that she felt her father had betrayed her mother's memory.

My lady bore the young princess no great malice. No, I do not joke; Adorée might as well have hated the fire irons had she tripped over them. Snow White was a rival for the affections of King Alfred, and my lady determined, as in all else, she would never accept a second place finish. A few whispered comments here and

there, some acute public observations on how manual labor strengthened the spirit, and love-besotted Alfred ordered his daughter to serve as a chambermaid, where my lady hoped she would soon become worn-down, perhaps even pine, decline, and die.

Ah, Snow White. She was just a young girl, but even then you could see the promise. Adorée never comprehended that beauty is independent of the fanciness of one's clothes or one's economic station. Perhaps if she had understood what a fleeting commodity beauty is, she would not have held it so dear, my poor lady.

But I digress, though not by much, since beauty is a fickle thing. For young Snow White, grief ripened heretofore incipient loveliness. Every night my dear lady would ask me who was the fairest of them all, and I would take a quick mystical glance around the continent. I had given up mentioning to her how close the other women's beauty came; for if one actually did surpass Adorée, my dear vain lady would only fret, and then cook up small enchantments that would give her rival snailpox or an irresistible craving for bonbons. It was easier for her, and for me, if she did not know how close she came to being eclipsed.

But each day Snow White grew more lovely.

One night, when Adorée had been particularly cutting to Snow White at the dinner table, I found the young princess crying on her bed, hair unbound, lace hanky delicately blotting at her tears. "Snow White is the fairest in the land, oh my lady," I said as I must. But in the heart equivalent of my being, I felt dread.

"What?" Adorée said. "What do you mean—Snow White is more beautiful than *me*?" My lady got up and paced the floor of her boudoir.

"Her unhappiness—" I started to explain.

"I don't care," she said, her expression losing her several minks on the beauty scale right there. "She must be eliminated—an accident or some such. How best can we achieve this?"

Well, I had no choice but to plan. I did try to persuade her that a maiming might be a better choice; even a slight case of leprosy would leave Snow White out of the running, but my lady sensed a rival for the affection of King Alfred and would consider no alternative than to remove her opponent from the board, permanently.

It had to be a good plan, and fool-proof. Snow White was given to wandering in the woods with just an attendant—how dangerous getting lost there can be! I reviewed the attendants quickly, looking for secrets that we could profitably exploit.

There was a woodsman who had some years previously carried on an illicit affair with a lady-in-waiting. I gave Adorée the facts and watched in awe-struck fascination as she browbeat the hapless servant into agreeing to do away with the princess and to bring my lady as proof the heart and liver.

I remember how Adorée paced, waiting. I almost offered to show my nervous lady a vision of the woodsman and his trusting charge, but I judged it would only excite her further. As for myself, I watched as the woodsman, distraught with the thought of the ugly deed, begged the young princess to flee for her life.

It was a vexing moral dilemma for me. My lady had not directly asked me to tell her if the deed was committed; and regicide is the most serious of crimes. I calculated if Snow White were to run far enough away, or the



privations of her journey have ill consequence upon her appearance. I need never mention her continued vitality to my dear lady.

The woodsman was smart enough to slaughter a deer on the way home and presented my lady with the appropriate organs, which she sent down to cook and subsequently ate as a late night snack, remarking to me that at last her position in King Alfred's regard and loyalty was assured.

The next few weeks were of great comfort to my lady. King Alfred was distraught over the disappearance of his daughter and sought Adorée out for solace. Assured of her worth, my lady relaxed and truly enjoyed her queenship for the first time.

While Adorée savored her secure position, Snow White was found by a small community of dwarfs, who promptly exploited her as unpaid labor in exchange for room and board. I had expected she would run far and fast, but I could hardly do anything without tipping off my lady, could I?

As it was, only a matter of weeks passed before Snow White's bloom returned to her cheeks; and when my dear lady asked me that fateful night, yet again, for the identity of the fairest in the land, I perforce answered with the name of her "deceased" rival.

Oh, the abuse and imprecations my dear frustrated lady screamed at me! Why, Adorée even threatened to smash me, and I quickly needed to remind her that while breaking an ordinary mirror brings seven years bad luck, breaking a magic mirror brings seven times seven years (which fact explains why I sit, whole, in this lumber room).

The revenge my lady planned on that hapless woodsman was dire and deadly, howsoever prevented only because the worthy had fled, taking all his relatives, to a far country, where they live to this day.

But even that joyous task was set aside in favor of once and for all time eliminating her rival. Adorée seized upon the notion that to perform a task correctly, one must perform it oneself; so she must disguise herself and go forth.

My vengeful lady's preparations were made in secret, as all transactions of darkest magic must be. I advised my lady against it time and again until she forbade me to speak ill of her task, which order I must follow strictly. Thus I could not warn her that the ultimate price for her sorcery would be her fertility; for to kill a child the cost is poison to the loins. Truly, I do not think Adorée would not have cared, so bent was she on protecting her position.

Of the details, the poets tell in full; how Adorée disguised herself as a withered crone, apples stacked in her basket. I watched, nervously, as she tapped her cane upon the door of the dwarfs' dwelling. Cleverly offering Snow White a bite from the opposite side of the apple she herself had tasted (the poison was only on the red side, you see) my lady watched joyously as the young princess choked and slumped to the ground.

Why my dear lady did not make sure of her rival's demise, I am not sure. Over these years, as I have had much time to reflect, I have come to the conclusion that Adorée simply did not, could not, find fallibility in her plan, believing that aught could prevent her from her goal.

When my lady returned from her journey, she was exhausted and sick from the magicks that had taxed her very soul. She was an invalid for months, and when she arose from her bed her beauty had changed to a cold, crueler version of her lovely self. Changed, too, was her relationship to those around her, for now she schemed for power, not love and security. As King Alfred waned, worried about the unresolved disappearance of his daughter, Adorée's power waxed, though for the first time she made undisguised enemies. How else, the astute counselors asked themselves, could she know of privy councils and secrets, save by some magic source? Yet they dared not contest her rule, what with a fading king with no immediate heirs.

Seven years passed in this fashion, and my lady's position slowly became more unstable, as her barrenness prevented her from the power base most ruling Queens enjoy. Adorée grew more cruel,

more apt to resort to questionable methods of enforcing her will. I longed for the days when we would chat and she would comb her long hair while I assured her she was indeed the prettiest. Now it was, "Spy here for me," and "Spell here for me," and, "Advice on which minister to favor this week." How could I refuse my most beautiful lady?

In the meantime, of course, Snow White was not really dead. The poisoned bite of apple had lodged in her throat, suspending her between death and life. The poets say the dwarfs were so grief-stricken at her demise they built her a crystal coffin; I say they knew a curiosity that would draw pilgrims when they saw one.

Despite our contention, the poets and I are agreed that the coffin was lovely: crystal-sided, chased with gold, studded with diamonds and precious stones. So beautiful was it, in fact, that people came from miles around to gaze on it and the loveliness of the princess entombed within. Most of the poets allow how the then-Prince Charming was on a quest for adventure when he stumbled across the dwarfs' ghoulish shrine. I say he was a common thief searching for some treasure he could steal away.

I leave it to you to speculate on what impulse could drive a man to kiss a corpse, no matter how lovely. No matter why, the deed was done, and for whatever reason—a faulty spell, perhaps—the apple's bite lost its effectiveness and Snow White coughed up her bane.

I don't envy the young princess; imagine her point of view: one minute she is biting an apple offered by a kindly old woman, the next, a strange prince is kissing her, and she is choking and coughing up a chunk of the aforesaid apple. It's amazing to me that she didn't slap him right there and run off; how much trouble it would have saved my lady if she had!

I'll grant Prince Charming this: he was smarter than the common run and recognized the apple bite as something out of the ordinary. Preserving the evidence in a handkerchief, he took it and Snow White back to his kingdom for further investigation. And although I do not have proof, it is my understanding that several gems from the crystal coffin disappeared at about this time, though I do not accuse.

With the testimony of Snow White, the woodsman, and the forensic sorcerer's evidence based on the apple bite, Queen Adorée was brought to trial despite her exalted position. I was seized for evidence; it is true my testimony was essential to her conviction, but I rendered it under protest, for of course I can only tell the truth. They forced me to replay key events for the court—how could any lawyer have hoped to refute such evidence?

My poor lady was in a state of nervous exhaustion during all this, staring blankly ahead in the courtroom. Seemingly overnight, her beauty faded along with her power and prestige; when she was forced to dance herself to death in red-hot iron shoes, it was almost a kindness.

Snow White ascended to her queenship shortly thereafter; King Alfred abdicating. I was returned to this castle after the trial, and though I explained patiently and carefully to the beautiful young queen how I could be of inestimable value to the ruler of a kingdom—or to any owner, in fact—she had me covered and sent to this lumber room, where I have remained until today.

Would you truly not care to remove my cover—ah, thank you! The dark side of a dust cover is a dreadful view—and to see you—ah!

Why, yes, come closer. Has anyone ever told you of the lovely eyes you have? Yes, with just a minor bit of help—here and there—you could be quite a beauty. No one would notice if you were to remove me from this room—no one has paid the least amount of attention to me in so many years.

I'm sure I could be of great help to you as a friend and confidante. □



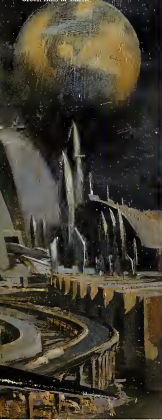
With yesterday's pens and brushes,
they built our science fiction tomorrows.

THE GADGET ARTISTS

BY VINCENT DI FATE AND ROGER REED



INSET, ABOVE: This 1942 interior drawing for Famous Fantastic Mysteries, which illustrated the Ray Cummings novel, A Brand New World, clearly demonstrates Frank R. Paul's unique talent for invention. LEFT: Stanley Meltzoff painted this magnificent vision of humanity's conquest of the moon in 1951 for the first mass-market paperback edition of Robert A. Heinlein's The Green Hills of Earth.



Science fiction art is a unique kind of picture making that attempts to transport the viewer beyond the known world to exotic places populated by fantastic beings, or to times and dimensions far removed from the common experience. The artist achieves this remarkable feat by carefully integrating elements which are familiar with those drawn wholly from the imagination. How successful the endeavor is depends largely on how seamlessly these disparate elements are woven together. The viewer is convinced by the authority of the artist's brush-stroke, by the command exerted over color, shading, atmosphere, perspective, composition and the countless other tricks of the artist's trade—and is transported to realms vastly beyond anything which he or she might have otherwise imagined.

In the burgeoning magazine field of the teens and twenties, stories of fantastic science grew in popularity and in 1926 Hugo Gernsback established *Amazing Stories*, the first magazine devoted solely to the publication of science fiction. Prominently featured in the magazine was the work of artist Frank R. Paul. Paul depicted a wide variety of fantastic subjects during his long and prolific career, but today he is best remembered for his paintings of convincing futuristic machines. The impact of his brightly colored work prompted many imitators, and gadget painting quickly became one of the earliest and most important means by which the category of science fiction could be readily distinguished from other types of literature. The spaceship, the ray gun, the flying backpack, the robot and the futuristic cityscape



*This cover, painted for the July 1931 issue of *Amazing Stories*, demonstrates both Leo Morey's dynamic composition and his talent with color.*

became icons of the genre, just as clearly as the six-shooter and the stagecoach were the revered symbols of the Western.

Following in Frank R. Paul's path were a number of artists who refined and expanded the visual conventions of the genre. Among the most prominent of these artists were Leo Morey, Hans Wessolowski, Howard V. Brown, Alex Schomburg, Malcolm Smith, Ed Emshwiller, Mel Hunter, and Ed Vallgursky—all of whom worked primarily for the pulp magazine markets until the demise of those magazines in the mid-1950s.

Each of these men stands out in the history of science fiction art for different

This gadget painting, for the short-lived publication Orbit Magazine, admirably shows Rudolph Belarski's ability to convey convincing hardware. This helicopter, dropped from space into the atmosphere, would be, not by far, the best depicted using its propellers. It is, in the folded-out state, a very good one.





This fairly typical gadget painting shows a favorite subject, the space station, painted by Alex Schomburg with a hard-edged clarity which is virtually unique in the genre. Created in 1957 for Satellite Science Fiction, the painting was for "Rocket to Limbo" by Alan E. Nourse.

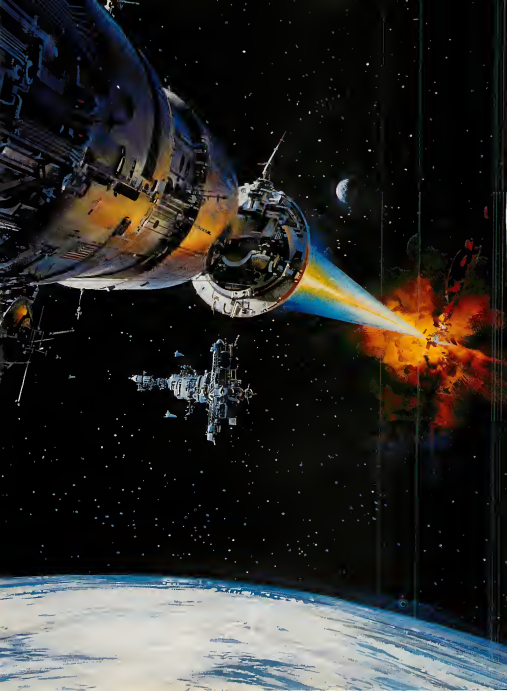
reasons. Leo Morey, for instance, although never quite as convincing in his scientific detail as Frank R. Paul, was a good colorist and was very dynamic in the way he composed his paintings. The artist Hans Wessolowski, known mainly as "Wesso," was Frank R. Paul's chief competitor among gadget artists and had the unique distinction of having painted all of the covers for the magazine *Astounding Stories of Super-Science* when it was owned by the Clayton Magazine chain (1930-33).

Alex Schomburg is unique among the gadget artists, in that though he began working in the science fiction field in the mid-1920s, he is also known and revered for his work in the field of comic book illustration as well, particularly his comic book stories of the Golden Age Human Torch. Rudolph Belarski worked most of his life for the pulp magazine and paperback book fields, and is chiefly remembered for his illustrations of works of heroic science fantasy such as the stories of Edgar Rice Bur-

roughs and others. He did the majority of his science fiction paintings for *Argosy Magazine*.

Another artist of the period, Malcolm Smith temporarily worked on staff for the Chicago-based publisher Ziff-Davis and later directed *Other Worlds* and *Fate* magazines for the well-known science fiction editor Ray Palmer. His well-executed illustrations made him one of the top illustrators in the genre during the '40s and '50s. His particular niche came in the early '50s, when he experimented with a photo montage technique using color dyes.

By the late 1940s, the paperback book began to emerge as a new and viable home for science fiction. Although many pulp





FAR LEFT: Inspired by the Star Wars space-based defense system, this 1965 painting for Plain Truth Magazine shows John Berkey's masterful combination of impressionism, vibrant color and stunning realism in a terrifying portrayal of what this weapons technology might be capable of. LEFT: This 1964 illustration for the cover of Orbit Magazine shows Ed Valigursky's deft handling of both technological and human subjects. Although his genre work is largely limited to an occasional painting for the Doubleday Science Fiction Book Club, he remains active in the field of aviation art.

artists survived the transition to this new market, some did not. One such survivor was Ed Valigursky, a prolific contributor to the pulp magazines who, during the 1950s and early 1960s, managed to continue on as a major S.F. illustrator for the paperback field. He still continues to do magazine work today for such science-oriented publications as *Popular Mechanics* and *Popular Science*.

Newer artists, many without any particular interest in science fiction, were given assignments in the genre and brought mainstream aesthetic values to the field. Among the best of these newcomers were Stanley Meltzoff and Robert E. Schulz, both of whom produced a small body of highly influential works. Early paperback artists such as Meltzoff and Robert E. Schulz were highly trained in their craft, but were generally unfamiliar with the conventions of magazine S.F. illustrations, but they did bring a distinctive perspective to the genre. Such was the case of Alexander Leyden-

frost, a respected mainstream illustrator. His work within the science fiction genre was limited mainly to interior work for such secondary pulp magazines as *Planet Stories* and *Famous Fantastic Mysteries*.

Later artists to work within the gadget specialty include Dean Ellis, Christopher Foss and John C. Berkey. Of these, Berkey was especially successful in creating a style that affords him work in a wide variety of mainstream markets.

For as long as people have wondered about the future and dreamed of what might be, artists have offered provocative images to give definition to those dreams. Without those images, humans would certainly continue to dream, but how less attainable would those dreams seem to be if not for the influence and inspiration of Frank R. Paul and those of his kind. If science fiction art has a function beyond mere entertainment, perhaps it is to provide us with the road map for the long and arduous journey into the future. □



*This piece is an example of the photo montage technique of Malcolm Smith. It was done for the cover of *Imagination* for the story "Beware the Usurpers" which appeared in November of 1951.*

Ray Bradbury's classic tales are transformed into graphic story gold.



Bill Stout delineates Ray Bradbury's dinosaur dreams with an image inspired by the Grandmaster's classic "A Sound Of Thunder."

THE FIRST ISSUE OF *RAY BRADBURY COMICS*, published by Topps—best known for their trading cards—should be appearing in comic shops this month. It's a special all dinosaur issue—32 high-production value pages plus three trading cards, one reproducing the Bill Stout cover, another featuring a new Al Williamson illustration, and a third previewing the upcoming dinosaur movie *Jurassic Park*.

This comic book is a direct continuation of *The Ray Bradbury Chronicles* series of graphic adaptations, master-minded by Byron Preiss. Three volumes of the *Chronicles* have been published by Bantam Spectra Books in glossy trade paperback format.

Ray Bradbury comics?

My first reaction was: this is most likely just a quick way to cash in on the Grandmaster's instantly recognizable name. But there is something tantalizing about the concept, especially if you're one—like myself—whose childhood imagination was, at various times, magically set afire by brightly colored comic books and by evocative imagery found in collections of Bradbury's fiction (the titles alone stir up a nostalgic thrill: *The October Country*, *Dandelion Wine*, *The Golden*

Apples of the Sun). Of some further comfort is the knowledge that Bradbury has allowed his work to be associated with comic books for a long time. Adaptations of his stories appeared frequently in the pages of the now legendary EC comics of the 1950s.

Despite his status as a literary icon inside and outside of science fiction, Bradbury unabashedly proclaims that comic strips such as Buck Rogers, Flash Gordon and Prince Valiant helped shape him into the person he is today. He is not a man to turn his back on all the gushy thrills of childhood—things like comic books, the circus and dinosaurs.

Bradbury has dealt magnificently with dinosaurs in prose: "The great brutes swung like ugly machineries of war and dissolution through moss ravines, crushing a thousand flowers at one footfall, snorting the mist, ripping the sky in half with one shriek." (From "Tyrannosaurus Rex") He strikes up powerful images and emotions with a few words and I do not believe that any other medium is going to fully capture what he has already given us. But there is something exciting, too, looking over the work of all the different artists that Byron Preiss has gathered thus far, in all their varied styles and rich colors, as if we are seeing the powerful dreams of one man being dreamed over over again by a broad spectrum of creative minds.

The central story of Topps' first issue is the classic "A Sound of Thunder," interpreted by both Richard Corben and Al Williamson.

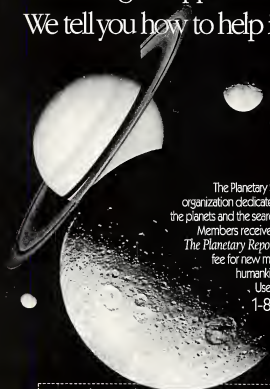
"Sound," a tale of time travel, dinosaur safaris and how the smallest details can change all of history, is one of Bradbury's most familiar works. Many, many times over the years I've had people recount some version of this story, and often they had no memory of where they first read or heard it. It's as if "Sound" has been planted into our cultural consciousness, becoming a piece of modern day mythology.

Richard Corben is something of a cult artist. He rose up out of the underground comix scene of the '60s and '70s and he never has accommodated himself to the strictures of mainstream comics. He is perhaps best known, now, for his hairless, over-muscled fantasy character "Den." No other comics artist that I know of has a style approaching anything like Corben's. Working heavily with airbrush he creates images that seem to come close to being three-dimensional, bubbling and bulging up from the page. In color his work can be truly stunning, a window into a world of strange, heightened reality. As such Corben's work is perfect for evoking the hyper-real feel of a certain kind of nightmare, where you know it can't be real but you can't pull yourself out of it.

Corben does not disappoint in his approach to "A Sound of Thunder." His dinosaurs are savage, brutal and disturbingly sexual creatures. The human characters are distinctive and expressive. And his panel

Continued on page 78

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ANDREWS: Would not a simple method be to devise an integrator as Dr. Minsky suggested, a common sense data base that would take all input, digital or analog or whatever, and then act on them in such a fashion that overcomes all the various theories and protocols?

MINSKY: I would like to see a few other such attempts to propose a "large scale" scheme for integrating different kinds of knowledge and kinds of reasoning. The first good one was Sigmund Freud. And you see how little attention he got from the "physics envy" people. I agree with Arian. Get about five different kinds of representations, and then get some hackers to find ways of using them in concert.

ANDREWS: I've been working at the White House Science Office on advanced manufacturing integration policies. Dr. Minsky, they have the same problem you've been discussing.

MINSKY: Some of the neural net people are just now starting to connect two or more different nets. After twenty years.

ANDREWS: I would like to see robot/Al kits that hackers could use. From those ten million kids out there—without any envy, just lust and greed!—we would get some real Al, I'd think.

MINSKY: Personally, I think about fifty years should produce a lot. My experience has been that it takes about five to ten years for a new "paradigm" to mature into this field, and I think we need four or five more before the things get smart enough to improve themselves.

SF AGE: How high on the research dollar totem pole is AI?

ANDREWS: Intelligent machines are high on the list; AI is not.

MINSKY: The government was great about AI in the 1960's, because the computer part of ARPA—the military Advanced Research Projects Agency—was pretty much run by really smart technical young Al people. But the young people lost control there, and we couldn't find volunteers to join ARPA and try to rebuild it. Then the Reagan Administration decided that the government should not have "industrial goals."

SF AGE: When will we get the Manhattan Project of AI?

ANDREWS: I predict that we need a Bill Gates of AI, a Steven Jobs of AI—not a Manhattan Project.

MINSKY: Yes, I think we need a few new labs, with 10-year funding for medium sized projects. And as an aside, I must say that the SF world has understood nanotech possibilities much sooner than did the "establishment" science world.

SF AGE: Are there any science fiction stories in which AI was handled properly?

LANDIS: There's Dr. Minsky's *The Turing Option*, of course.

ANDREWS: Personally, my favorite from the distant past was *The Moon Is A Harsh Mistress*, by Robert Heinlein. In the end, the Al leads a revolution against the Earth and frees the new society of the moon.

MINSKY: In fact, my robotics career was strongly influenced by Heinlein's *World* novel, from 1940. I gave him a nice string-puppet which he often played with, and called it Waldo.

LANDIS: An AI story that I found very impressive, because it was very early, was called *Unwise Child* by Randall Garrett. It

proposed that a just-programmed AI would be very much like a child, and make similar mistakes.

MINSKY: And I liked Benford's recent ideas about incorporating "aspects" of dead people into living humans. He solves the interface problems by having them work through almost conventional displays, rather than deep brain connections.

ANDREWS: I think the final irony will be that once we have machines that are very intelligent, they will be so ubiquitous that no one will notice or care. They'll be as numerous as people.

MINSKY: Or just possibly, they'll find out how to merge their knowledge bases—like Sturgeon's Medusa, and become one.

SF AGE: Will we have AI not just when it does the jobs we want it to do, but when it decides to go on strike, or take a walk on the beach, or smell the flowers? Will the demonstration of AI be when it does what it wants to do, not what we want?

MINSKY: Yes, some AI's will surely make habits of smelling flowers, etc.

ANDREWS: Obviously, Scott, you are not an engineer. As my kind—mechanicals—have noted for centuries, machines often do what they want already, without reason or rhyme.

LANDIS: Not doing what the programmer wants you to do, for a machine, would be an evolutionary dead end! Such machines would not be reproduced.

ANDREWS: Not if you kill the programmer, Geoff.

MINSKY: Seriously, when "real" AI becomes imminent, we should take the same sorts of precautions that Drexler discusses for when self-reproducing nanotechnology engines are about to be practical. The first powerful AI's will surely be full of dangerous insane bugs, like in James Hogan's "Two Faces of Tomorrow."

Artificial intelligence resides in the amazement of the person watching the AI machine.

ANDREWS: My short story "Silicon Bouquets," speculates on what happens if we do give chips some awareness, but not enough brains. They become psychotic, hopeless.

LANDIS: It makes a good story, but in the real world such machines are evolutionary dead ends, as well. They get turned off and scrapped. I suspect that an early use of AI's won't be in mobile robots, but in fixed computers, as personal assistants, and possibly companions.

SF AGE: Does AI incorporate the notion of free will? For example, you build a machine that when it walks into a room where there is a spill, when it sees the spill, it knows where the cleaners are, mops it up, etc. Is that AI? Or is AI when it writes a poem about the way the light shines on the spilled water, without being asked to do so?

MINSKY: Well, to me, AI is when the machine does things we admire, and would like to be able to do for ourselves.

SF AGE: But spontaneously? Or at our prompting?

MINSKY: We're still in a primitive era, in which the machines have no perspective of the future, no "basic family values". And yes, we should insist that this science proceed to extend our pitiful lifetimes.

SF AGE: Does anyone care to make a summation or some final predictions?

MINSKY: I would simply refer to Vernor Vinge's concept of singularity and say that as we approach increasingly smart machinery the consequences could be so large that everything will be different. Downloading means the end of death. Mass-reproduced AI means the end of work. I cannot think of anything that would thereafter remain the same. Arthur Clarke, Fred Pohl, all of the great SF writers realized this a long time ago. I once asked Frank Herbert why there weren't any computers in Dune, except pure organic ones. He replied in the same vein. That is, he said everything would be so different that there was no place to begin such a story.

ANDREWS: There is a serious Japanese government report that discusses the biggest impacts of technology on future society. It predicts that by the year 2010, the most significant problem will be to determine what is a human and what is a machine.

LANDIS: It means that someday soon, we will have to redefine what it means to be human, and discover what it is that we really are.

ANDREWS: Okay, I won't be bashful. We will not recognize that we have created a real AI (I still prefer "DI") until a decade or so after we've done it. We will begin to notice something strange about a computer program, or an intelligent factory, or a smart highway, or a robot vehicle in the ruins of Iran or Iraq, or somewhere on the Moon. Then, in retrospect, we will realize what we've done.

LANDIS: And destroy it immediately. □



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SOMATOYS

Continued from page 57

Abruptly, Berner understood that Cleet was telling the truth. His heart gave a great stumbling leap in his chest, but he didn't speak.

"When I'm gone...remember me, hermit!" Cleet smiled, almost sweetly, and allowed the door to fall shut.

Berner spoke to the door. "Yes, I'll remember."

Berner watched from the beginning, compelled, his heart pounding.

Cleet went to her. He parted the hair at the nape of her neck, massed the personskain to her receptacle. Instantly she rose to all fours, moving with an alien quickness. Cleet snapped in his own skain and fell into the same gangling crouch.

The holoprojectors picked up the data stream from the now-active skains and the deck transformed into a narrow murky cavern. Slabs of rotting wood and crumbling plaster reached into a darkness far above, and the air was almost palpably damp. Berner's perspective twisted subtly, and he seemed to be looking into a dimly lit space between some giant's walls.

Candypop was circling Cleet now, and he swayed rhythmically, waiting for her. The golden mask displayed eagerness, pure and uncomplicated.

Not until she sprang at him, and pushed her body under his, did Cleet begin to seem confused. His eyes flicked from side to side; the mask shimmered with mild puzzlement. But the personskain gripped him as strongly as it did her, and he thrust into her, his body straining. He shuddered, pressed himself to her, clinging, pumping.

Cleet seemed to shrink a little, as if he were pouring some essential part of himself into her, and she in turn seemed larger, becoming, even while she writhed beneath him, the dominant figure.

He slid away from her to lie gasping, and now confusion rose up to cloud the golden mask. He seemed to realize that something had gone awry.

Candypop turned and looked at Cleet, eyes alive with a new hunger.

Cleet began to rise, reaching for the skain at the back of his neck.

She sprang; she buried her strong teeth in his throat. Blood spouted; he fell back. He flailed at her ineffectively, eyes impossibly wide, mask convulsing. Blood covered both bodies.

Cleet gathered the last of his strength, threw her off, and pulled the personskain from his neck. He crawled toward the window, glaring up at Berner with burning eyes, rage contorting the mask into a dreadful shape.

Berner was frozen, hands twitching against the glass. Cleet would kill him in some terrible way, and the woman's suffer-

ing would continue. How foolish he had been, to think that he could trick so powerful and elemental a being as Cleet.

But as Cleet reached the door and tried to stand, his vitality failed him. The terrible eyes went cloudy and in a moment had emptied of everything but a dim perplexity. He slid to the floor, and Candypop leaped onto the body.

Berner turned away when she began to feed. He tapped the faceplate of the chamber into which he had switched the Hyaena Extro Brunnea skains. The faceplate lit, displaying the name of the species that the woman now emulated: LATHRODICTUS MACTANS. He tapped it

*He crawled
toward
the window,
glaring up at
Berner with
burning eyes...*

again and watched the spiders copulate, the slender male riding the female's huge black abdomen. He watched the female kill and eat the male.

He was grateful for the soundproof door.

A few minutes later, her personskain timed out, and she collapsed on Cleet's orn body. Berner went forth, removed er skain, and crushed it under his heel, grinding it into small bits of plastic and metal.

The boat was dying as he carried her out. The stairfield flickered and whined, visibly unsafe. He used the emergency ladder instead, moving slowly and carefully, her weight across his shoulder. On every bulkhead he passed, screens bled data and went black, and he could hear the rattle of solenoids as the systems shut down. By the time he reached the lock, which had opened as automatically as the mouth of a corpse, the boat was dead and silent.

IT WAS TWILIGHT, BY A HAPPY COINCIDENCE, but Berner was surprised by the heat the ground still held. Sweat poured from him and mixed with the blood that covered Candypop. Before he had reached the cave, he was gasping, and her body threatened to slip from his cramping arms.

But he carried her into the cave and laid her on the mats, which had grown dusty during his absence.

He fetched a basin of water from the spring at the back and had washed away most of the blood by the time she woke.

She struggled to her knees, looking at him with wild wide eyes. Then she vomited up her last meal.

He wiped her face and helped her to the hammock before he cleaned up the mess. She hadn't spoken; he wondered if she would ever speak again. He carried the bloody mat outside.

When he returned she was sitting up in the hammock, long legs dangling. Her eyes had cleared, and she gave him a small haunted smile.

"He's dead?" she asked, as if she couldn't remember.

"Thoroughly," he answered. He arranged a pile of spare mats in the corner by the spring and lay down, taking off his sandals.

After a while she lay back. She fell asleep long before Berner did.

He fell gratefully back into his old routine, though he no longer performed his daily devotions; his former faith now seemed childish. Candypop stayed in the cave for the first few days, silent and still.

One morning she came to him in the fields, wearing a smock he had given her. She looked both older and younger, somehow. She stood and watched him loosening the soil in a bed of posole seedlings.

"My name isn't Candypop," she said, finally.

"Oh?"

"It's Kariel," she said. "Kariel Antrine. I'd almost forgotten."

"A nice name," he said, concentrating on his work.

Another silence fell. The sun rose, and Berner sweated over his seedlings.

"I'm grateful to you," she said, in strangely resentful tones.

"No need," he said. "I was saving myself as well."

"He wouldn't have killed you."

"That's not what I meant," said Berner.

"Oh." But the resentment was still there, and it puzzled Berner.

She seemed to searching for the right words. "Listen," she said. "Cleet told me...that you've been celibate for 30 years."

"True."

"I'm afraid you'll have to wait another 30 years," she said, all in a rush. "At least." She seemed both angry and embarrassed.

He smiled at her and leaned on his hoe. "I understand. But I don't think it'll be quite that long. The circuit ship is due in four years or so, and then we can both get out of here."

Kariel had apparently been holding her breath; she let it out and gave him her first true smile.

He basked in that radiance for a long moment, and then he went back to his hoeing. □

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Step through the *Gateway* to bring Frederick Pohl's classic novel to life.



Legend Entertainment's computer game *Gateway*, based on the books by Frederick Pohl, drops the player into a very detailed and believable world. Illustration by Darrell K. Sweet.

ADVENTURE GAMES SUSTAIN THEIR OWN UNIQUE player niche, distinct from the more visually oriented slash and bash warrior games in which combat is real and immediate, and a quick hand on the control button is a prerequisite. Modern "adventurers" no longer seek their fortunes in far off places and face physical danger, but strive instead to complete a journey presented as a Sphinx-like riddle, one described only in words, with the threat of failure ever-present.

In fact, it was my first computer game experience with *Eliza*, the artificial intelligence "Doctor" program, that influenced me to join the field of artificial intelligence. (And, I should add, it was my first inappropriate use of computer lab time in college.)

Eliza, which can be thought of as an early Neanderthal forbear of modern adventure games, acted as a practicing psychiatrist by cleverly rearranging bits and pieces of what you said to hold up its end of a psychiatric analysis session. *Eliza*, as a doctor, was rarely "in", was often monotonous, and faced with an antagonistic patient such as myself, was easily broken. However, *Eliza* still offered enough appeal to repeatedly prompt computer center bans of it and other games (all text-based in 1970) that were chewing up

the University of Maryland's computing budget.

Thus the appeal of an adventure game like *Gateway* (Legend Entertainment, suggested retail price \$59.95), the animated adventure game based on Frederick Pohl's classic 1977 novel of the same name, is for me twofold. First is the amateur detective's yearning to untangle the knot of objects, contacts, conversations and clues that are presented. Much like the monkey who can only reach the bananas hanging from the cage ceiling by fitting together the two sticks that the researcher left for him, the *Gateway* prospector must try to discern the sequence of "throw", "take", "examine", and other game actions available that unlock the *Gateway*'s secret room, pilot the HeeChee ship, discover alien artifacts, or reveal the shield generator's location and, of course, ultimately save the human race from destruction.

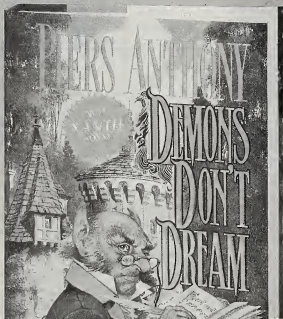
The more esoteric and difficult the game, the longer and more complex the correct sequence of events becomes. *Gateway* more than qualifies as a sophisticated adventure game in this regard. Many of the puzzle sequences (which earn the player points when solved) are quite complex. Yes, I found some puzzle completion sequences dealing with alien artifacts, such as the one in the museum, to be a stretch, but then, after all, they are alien artifacts. Besides, this type of complexity is well within the license of the adventure builder. And for those of us who are not die-hard adventure players, there are many small, point-gaining exercises which encourage you to press on. (You know when you have successfully completed one because you are immediately rewarded with some points.) For instance, I managed to find my way to the *Gateway* briefing at the proffered time and received my blue badge (and some points), thus permitting me to pilot a HeeChee ship. And finally, just for variety, one occasionally finds oneself in the throes of a Jeopardy-like game of the future, answering questions in a selected category to advance in the game. Why not?

One problem with adventure games is that if an adventure game builder labors at his art long enough, an adventure can become nearly impossible to complete—thus, the proliferation of various game "hint" books available for those players who become stuck, but are now hooked. This edition of *Gateway*, the initial offering, includes a hint book which offers an introduction by Frederick Pohl, the author of the original *Gateway* novel and sequels. The hint book is comprehensive and well written. I, for one, needed it with *Gateway*, as my fresh rereading of the novel offered little help in the adventure.

Besides detective work, adventure games hold a second fascination for me, and I think for others as well. The thought of "How real, how detailed is this world?" is never far from my mind when playing a game such as this. (If you walk around the building do you see two-by-fours holding up a false front or do you see a

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dog sitting in the shade of the building?) And in conjunction with this, how good is the input language processing? Does it understand colloquial English and complex commands?

My 11-year-old son, Tom, part of the ace review team assembled here, demonstrates the desire for realism differently, but the intent is the same—is silliness understood and tolerated by the game? And rightly so, humor is a hallmark of intelligent life. Tom likes to chop down the trees in video games with his hero's ax and chase the chickens in the farmyard—just because the game lets you do it. So between the two of us we managed to come up with "Kiss Thom Seldridge", our key contact in the Blue Hell bar. Unlike the old Doctor program, *Gateway* didn't miss a beat. Thom Seldridge's response was perfect, humorous and clever, yet one that brushed off the comment and let the game action continue. Likewise, if you stay up too late you may fall asleep, and if you drink too much you will pass out.

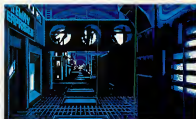
An additional criterion for a game such as *Gateway*, which is based on a successful science fiction novel, is how much of the spirit and feeling and story of the book it captures. I think *Gateway* is a qualified success in this regard. The settings and props are here, but I think it is difficult to capture the sheer terror and boredom of a flight to possible death, hurtling to an unknown destination aboard an alien HeeChee spaceship, or to experience low-gravity human flight by flapping your arms. I truly enjoyed the various scenes presented, some of them being quite striking. And I will admit to being afraid, at some points, that I wasn't typing in the commands quickly enough and was about to be breakfast for some alien creature.

Gateway's windows are nice, and the ability to interact with each scene makes "taking" or "examining" things and moving to new locations more direct and realistic.

In spite of the need for scenery in an adventure game, I must offer a caveat to the potential buyer here. The world of computer games is being engulfed in a sea of CD-ROMs and sound cards. Graphics and sound receive top billing these days, and *Gateway* is no exception—the front picture on the box depicts the *Gateway* itself, along with a corner banner, "color VGA 256 graphics". The game is described as an "animated adventure."

After having played the game, I must report that *Gateway* is adventure first, graphics second—the pictures are along to spice up the adventure, not the other way around. Don't get me wrong, the 256 color VGA graphics look great, it's just that

they're not, pardon the expression, very animated. Yes, the ship leaves *Gateway* and travels through the universe, but the beautiful full-screen graphics are sort of set pieces, like the stage in a Chekhov play. They establish the mood, but it is the play, the words themselves, that are paramount in this game.



The full-screen graphics in *Gateway* establish the mood but it is the play that is paramount in this game.

At installation, I tried the super-VGA option first, but as the Legend literature warned, the game might not run properly, and I had to reinstall and select VGA instead (the state of super-VGA standards still being more unsettled than VGA). The game is supplied on five 5-1/4" diskettes. It loads in a little under 8 megabytes of disk space. The sound is good, not too obtrusive or mindless, and usually helps provide the right mood. (I was disappointed that there were no sound effects or digitized speech though. Most of those 8 megabytes are words and pictures.) It supports a number of popular sound boards, including the Roland and Adlib cards, and the SoundBlaster portion of my ProAudio Spectrum 16 card.

After one of the brief full screen scenarios is complete, it's you and the machine, with a quarter 4 screen pictorial display of the place you're currently in shown in the upper right hand corner. There's some action in some situations, such as the dancing in the Blue Hell bar, but it is more of a storybook feel—with just enough movement to keep it interesting. The rest of the screen, appropriately enough, is occupied with words, your possible choices from the action and object menu lists which can be combined in complex and lengthy fashion if need be. Alongside the menus are a window for the dialogue, where you build your requests, and where the machine responds.

After playing *Gateway*, my son Tom still prefers the sword, ax, and magic spells of Nintendo's *Link* and *Final Fantasy* games, where a less complex, more physical (and visual) quest is the order of the day, but he's not that good a typist yet, and the mouse interface, while good, pops the action and object menus to the top after a command is entered. I prefer "sticky" menus which leave highlighted your last action, such as

"wait", a very useful command in *Gateway*—patience being an admirable virtue and much rewarded even in *Gateway*. (The game allows that the purists among us may choose to toggle the menu off in order to recreate the pure adventure experience.) In a very real sense, if you "wait" long enough (and are generous to the right people), good things come to you.

As with any adventure game, you are rewarded for the requisite curiosity, perseverance, and ingenuity you must exhibit to look for treasure in the minefield of alien worlds. And of course, *Gateway* encourages that classic adventure game packrat mentality, although there is a "take all" command to allow you to gather all your precious belongings at one time.

In the introduction, Frederick Pohl states that "The game succeeds in capturing all the flavors of danger, adventure, futuristic speculation—and even awe!—that I felt when I first began to tell the story of the Heechee's bizarre legacy." Any computer game falls short of the imagination we can unleash when reading a story, but *Gateway* does drop you into a very believable world and makes it easy and fun to spend weeks exploring it. If adventure is your game, *Gateway* should be on your shopping list.

Video Viruses Stalk Computer Gamers

Around the offices of *Science Fiction Age* there's one sure way to know when you've received a winning computer game for review—because you'll find the staff glued to a joystick when they should be putting together the next issue. But we guess that's not entirely a bad thing, because it allows us to tell you when we've got something truly hot on our hands. *DGeneration*, from Mindscape, has proven to be the most addictive game around here since *Tetris*.

In *DGeneration*, you play the part of a nameless courier who arrives via jetpack at the offices of Genoz Biolabs in Singapore with an urgent package for the company's head scientist. You discover that the lab's experimental Neogen organisms have escaped from the lab to take over the building, the building's security system is shooting anything that moves, and the surviving employees are cowering in fear throughout the building. To prevent the organisms from escaping, you must make your way through the maze of offices, dodging not only a security system gone wild, but also the various deadly organisms.

The worst of all is the *DGeneration* organism of the game's title, about which you know nothing, and of which there is only one. It will do everything to keep you from reaching Derrida, the head scientist, trapped on the 90th floor. You must pass through 120 rooms, each a uniquely designed challenge to your speed, wit, and puzzling abilities. Highly recommended—but not if you have plans to get anything else done for weeks! ☐

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COMICS

Continued from page 68

layouts are fresh and effective, shifting the mood and pace of the narrative from scene to scene—especially impressive is the page portraying the actual experience of time travel. The ending is potentially dark and disturbing, putting an emphasis on the brutal side of Bradbury's original story.

Al Williamson's adaptation of the same story (originally published by EC back in 1954) acts as a kind of counterpoint to the modern Corben version. Not only does it give us gentler, more pastoral science fictional imagery, reflective of a more innocent and optimistic time, it also amply illustrates, by comparison, how each artist remakes the source material. Williamson still works in the comic book field—his ink-work can currently be seen in the new *Spiderman 2099*—but he may wind up forever best remembered for his EC work, with its graceful figures and fine line work delicately etched into the paper. Now it gives us what feels like a retrograde vision of the future, far closer to Flash Gordon than *Blade Runner*. Whereas Corben's version has an air of horror and savagery from the beginning, Williamson's approach eases us into the story more comfortably, the look evoking a boy's adventure yarn—the protagonist portrayed as a bit like a dourly Hemingway on safari—the horrific side of the story only slowly sinking in by the last few pages. Even at the end we are at a safe distance from the terror, which makes us realize all the more how much Corben pushed our faces into it.

Sandwiched between those two takes on "Sound" is "Tyranosaurus Rex." It's an odd, whimsical tale about dinosaurs and movie producers, which may well be drawn from Bradbury's own Hollywood experiences. There's no obvious fantastical element here, but it still gives the impression of being pulled out of the realm of disturbing dreams. Garces, a Spanish artist whose work I haven't seen before, employs a deceptively cartoony style. A closer look reveals that, in fact, the panels are filled with realistically drafted detail, and the images become nightmarish whenever the dinosaurs or the puppet-like movie mogul appear in the frame. Garces makes odd little diversions from the original story. For instance, a key conversation takes place during a car ride in the countryside instead of inside an office, as if the artist just happened to be in the mood to draw an outdoors scene. Overall, Garces manages to add some charm and extra whimsy to a story that is

bound to seem light-weight in comparison to "A Sound of Thunder."

Reading the descriptions of the three stories in this issue you may already have an impression of the diversity of artistic styles and visions that are being brought to Bradbury's stories. But if you were to have before you all three volumes of Bantam's

The Ray Bradbury Chronicles (18 titles in all), as I do, you might find the broad spectrum of visual styles stunning and exciting. It's almost like being able to look inside the heads of a lot of different Ray Bradbury readers and see what they see with their mind's eye when they are reading. Bradbury's prose will always be the most powerful vehicle for his vision, but these comics do

make a fascinating adjunct: a fresh, secondary way to re-experience the old magic. It's clear that most, if not all of the artists involved took this project on as a means to create something new, not just to mechanically illustrate old stories.

What a range of styles. There is Bruce Jensen's heavy paintings for "The Aqueduct"—a story which is little more than a brief, grotesque vision—his human figures and ancient masonry appear to have been gouged out of layers of paint. So completely different from the way Dave Gibbons works in "Come into My Cellar" using a deceptively simple, standard comic book style to bring to life an ever mounting sensation of suburban paranoia. Gibbons—who was the artist for the much acclaimed *Watchmen*—has created one of the scariest, most gripping pieces in the whole series. The repetition of imagery, with the mood subtly changing, and the perfect, unhurried pacing build and build to the point where I found myself afraid to read the last page. I feared, along with the father in the story, to go down the stairs into the basement.

Steve Leialoha produces a moody, shadowy, but joyful, vision of the story "Homecoming" with heavy black inks somehow flickering lightly across the page. And P. Craig Russell uses delicate line work with plenty of open space for vibrant colors to create the feel of a spiritual journey for "The Golden Apples of the Sun." Painted pieces such as "Dark They Were, and Golden Eyed" by Kent Williams and John Van Fleet and "A Piece of Wood" by Mark Chiarello are effective in creating darker, expressionistic moods.

In the whole series, thus far, only one or two pieces struck me as failing to express any real vision of the story, the artwork wooden, the artist leaning back, letting Bradbury's words do all the real work.

Byron Preiss, Bantam and Topps present us with a series that is a great success as comic art and an intriguing way to re-

Bradbury has allowed his work to be associated with comic books for a long time.

experience Ray Bradbury. Most of all, the diversity contained in these collections shines a beacon on the broad range of Bradbury's short fiction. The ground he has covered during his long career is incredible and these comics only reveal the tip of the iceberg. □

GALACTO GUTS

CRASHLAND IN YOUR NEWSPAPER.

If you're lucky, you've already found Steve Cole's *Galacto Guts* on the comic strip pages of your local newspaper. It's the first science fiction comic strip launched since *Star Wars* bit the Deathstar in the mid-eighties, which sadly makes this new-

comer the only American SF comic strip in syndication other than *Flash Gordon*. Cole's first effort is a blend of SF and humor as we follow the dog-like Lenny and his well-meaning mouse-like companion Punky as they bumble their way across the cosmos. In seeking out new worlds, the main discovery of Lenny and Punky is slapstick, as they humorously alienate the alien and effortlessly destroy treaties between worlds (and worlds themselves).

King Features, the syndicate distributing this strip, hopes that all S.F. fans will request their local papers carry *Galacto Guts*. And why not? *Flash Gordon* is getting lonely on the comics pages. □

ESSAY

Continued from page 33

The last time I had the dream was around the time that I wrote a piece about Charles Keating, whom I despise. He is the classic example of the worst of the human race. Charles Keating is no less a monster than Jeffrey Dahmer: I wrote a column for *Buzz* Magazine about him. Fire and brimstone! It opened something like this: "By the time you read this he'll probably be back out there sucking on the necks of octogenarian ladies and robbing orphans again. But as I write this, the *nas* of Charles H. Keating, Jr. resides in the Los Angeles city jail. O Frabjous Day, Calooah, Callay." I just capered and shivered like a mad figure for the entire column.

I had met Keating years before when he was on one of his censorship drives going from town to town with his anti-pornography campaign, stealing with one hand and holding up the Holy Bible with the other. He's a very bad man. And he deserves nothing less than biblical, cosmic vengeance!

Anyhow, the night after I wrote the Keating piece I had "The Dream." Because I couldn't bear to live in a world where a Keating could flourish, I couldn't bear it. I had the dream on the day they broke ground here where I live, down our back road in this watershed land to put up some more condos. We couldn't stop them from doing it. I wept. I wept because there was nothing else I could do I was so frustrated. I just fuckin' cried, and that night I went to bed and I dreamt the dream. And the dream sustained me. I woke up and I was six years old again and I could go out and play. I could take my trapper's mitt and my Spalding and I could go out to the empty lot and play a pick-up game of baseball with the guys because I had lived through it. I had gotten through another damn day.

WE ASCEND TOWARD THE LIGHT

That, as Teilhard de Chardin has said, is the task assigned to us.

Why do we write? What overweening act of ego permits us to believe that this is some sort of Holy Chore requiring the abrogation

of a normal life—movies missed, parties unattended, evenings spent in amour bypassed, trips cancelled, sleep postponed. "Not tonight, darling, I have a deadline!"—so we can put on paper these great and electrifying thoughts.

It is ego, simply. That, and no more. Show me a humble writer, and I'll show you a dissembler. The mere act of writing is a demonstration of ego, for form follows function and the message is the medium: the simple act of writing for publication contains within itself the assertion, "What I have to say is worth your paying attention to!" Ego, nothing more.

And to justify that act of egotism, to permit us to go year after year with our disingenuous humility—aw, shucks, it's just a job of work, just writin' for beer money—we live half our lives in a twilight state of dreaming, half-dreaming, semi-dreaming, rapid eye-movement ratiocination.

The dreams sustain us. They enable us. They permit us to lie to ourselves that we matter that what we do is somehow better and more glorious than that which is done by the plumber who unclogs the toilet or the electrician who locates the short in the nursery light switch.

The dreams are one of our deadly facile alibis. Memory, sweet duplicitous memory, is another. But ego is the worst. Because, in truth, when your toilet overflows, you don't need Dostoevski coming to your house. The honest laborer is, perhaps, far more important than the best of us. Maybe Harriet Beecher Stowe shifted the planet on its axis slightly, but she never saved one one-millionth the lives rescued by Jonas Salk or Ralph Nader or even Mr. Bott, who invented those highway speed bumps that wake you when you're long-haul driving, that are technically known as Bott's Dots.

Were it not for the dreams, and their link with the unfathomable infinite, we would perceive how dusty we really are. And deprived of our cachet, how many of us toiling in the dreamtime would have the muscle or humility to go out and get a decent job serving the commonweal?

Fortunately, I dream, and don't have to dwell on that fanged conjecture. □

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BOOKS

Continued from page 17

From the end result, Allen has nothing to be nervous about. *Caliban* is true to the spirit of Asimov and will be welcomed by those who sadly can no longer get their fix from the master himself. As a novelist, Allen knows what he is doing, both as an author in his own right, and also as someone standing on the shoulders of a giant. I asked him whether he felt there was any difference between writing this work and one of his solo efforts.

"There was not so much of a difference as I expected," he said. "I reread the pertinent Asimov novels to make sure of my history and technology and politics, and that gave me a good feel for the world I was working in. Though I needed to stay inside the Asimovian universe, a universe is a pretty big place. I was able to carve out my own little niche of it and make the planet *Inferno* my world, my place. From there on in, I was on pretty familiar ground, in terms of the task of writing a novel. *Caliban* is my ninth novel, so I have had enough practice to know what I was doing."

And what about Asimov fans and loyalists? How did Allen think they will react to this unique collaboration?

"I think they will like it," he said. "I like to think I remained true to the spirit and tradition of Isaac's own work, and yet managed to put a new spin on it, force some changes on the preconceived notions."

And that Allen has ably done. When I finished *Caliban*, I sighed as I resurfaced from the gripping novel for the loss we had all suffered. But at the same time I felt a sense of gratitude as well for being able to dwell in the world of Asimov's Robots for a few hours once more. Thank you, Roger MacBride Allen, and thank you Good Doctor Asimov, for the legacy you have left us.

Geoffrey Mann

RECENT AND RECOMMENDED

• Slippery Jim DiGritz, aka The Stainless Steel Rat, has been one of the most popular continuing characters in science fiction since Harry Harrison first created him for John W. Campbell, Jr. 36 years ago. The original short story that introduced him has spawned many other humorous short stories and novels of this interstellar con artist turned intergalactic policeman. *Stainless Steel Visions* (Tor Books, hardcover, \$18.95, 256 pages including 13 b&w illustrations) collects many of Harrison's classic tales, including the first of the Stainless Steel Rat tales, as well as "Room-mates," the basis for the film *Soylent Green*, which starred Charlton Heston.

Comic book fans will be interested in reading Harrison's story based on his years toiling in the comic book field, "Portrait of an Artist." One of the special treats of this

collection is an all-new, never-before-published short story titled "The Golden Years of the Stainless Steel Rat," in which the legendary con man at last retires. Or does he? In addition to all this, there is an introduction by the author in which he reveals how his most famous fictional creation was really born.

• Coming to America can be a very tricky business. Some of us take a long time coming. Some never get here. And surviving the grueling physical trip is no guarantee of successfully making the often more difficult mental journey. Algis Budrys, now celebrating his 40th year in science fiction, has in *Hard Landing* (Warner Questar, paperback, \$4.99, 208 pages) written us a unique novel of immigration, illuminating the different ways immigrants react to their new and unfriendly homes. It is, in fact, about the ultimate immigration—to planet Earth from the depths of outer space.

Budrys has often focused on questions of identity such as this during his long and fruitful career, as in his novels *Who?* and *Bayou Moon*, and here he focuses on what it means to be an American for the inhabitants of an alien spacecraft which crash-lands on our planet with no hope of rescue. The alien beings, who look close enough to us physiologically to pass for human, split off from each other and try to forge new lives in the middle America of decades past. How they each cope with their individual struggles to fit in makes for fascinating reading, particularly from the pen of Budrys, who himself once had to make a similar journey of assimilation. He surely suffered some of the same emotional experiences as his characters when he made the journey to America with his father, the representative of the Lithuanian government in exile. Budrys' own background adds a verisimilitude to his characters' lives, which makes *Hard Landing* a moving and powerful work.

• Fans of heroic fantasy have a reason to celebrate, for Mike Ashley has followed up his successful anthology *The Pendragon Chronicles* with *The Camelot Chronicles: Heroic Adventures from the Age of Legend* (Carroll & Graf, hardcover, \$21.00, 418 pages). The collection gathers together 19 tales of Arthurian myth and magic from the days of the Round Table, with such diverse authors as Jane Yolen, Howard Pyle, Phyllis Ann Karr, Hilarie Belloc, Darrell Schweitzer and P.G. Wodehouse. Ashley has obviously done his work in delving through decades of medieval fiction, as the contents of this volume range from pieces which first saw print in 1913 to eight never-before-published tales. In addition to Ashley's introduction, the book is wisely prefaced with a guide to Arthurian characters, so that readers who are just now discovering the most beloved of fantasy worlds can follow the stories as comfortably as would Merlin himself. □

MOVIES

Continued from page 21

before full-sized models were created, Lieberman mixed the idea as being too alien—and too detracting from Walton's emotions. Admitting his error, the director asked for a more humanoid revision.

During the redesign process, Torne's *Intruders* aired on TV, reminding the filmmakers that the UFO world—from comics to cinema—is overpopulated by small, pale, hairless beings with huge, black eyes. News accounts from South America, Africa, Russia, and even Kansas all describe common features. Lieberman realized that the standard UFO occupants would disappoint audiences who expect more—and developed an extraordinary visual twist that he felt would jolt audiences, without violating the aliens' established physicality.

Three creatures about 5 feet tall (with an apparent weight of 70 pounds) were constructed, then animated by puppetry and remote control during the 13-minute climactic flashback.

The sequence begins in real time with Travis hiding under a table, trying to escape his emotional torment. Pancake syrup from an overturned bottle atop the table seeps through a crack onto his face and triggers his memory of the alien abduction. He emerges from a tiny, claustrophobic space and breaks free to discover a massive alien-like area. Moving into a more confining corridor, he is caught by his captors, dragged into a blindingly bright room, and slammed onto an operating table.

"The sequence is a stunner," Rodis says, "and I asked Rob how he could justify taking audiences through a simple dramatic story, then slapping them with a fantastic sequence at the end of the film without explaining it. He replied that the story is not about aliens, but about Travis Walton. I told him I didn't get it, and he said, 'Watch the movie; you'll get it.' So I did, and he was right."

Torne makes a similar assessment. "Every film is a never-ending battle to keep your vision as intact as possible, and with *Fire*, I'd say 70% of what I wrote made it to the screen."

Fire in the Sky stars D.B. (The Cutting Edge) Sweeney as Travis Walton, Robert (Terminator II: Judgement Day) Patrick as his friend Mike Rogers, and James (Murphy's Romance) Garner as Sheriff Frank Watters. The \$19-million drama, the first of a new wave of UFO pix being prepped for release in the next year, was filmed in and around several small Oregon towns, including Oakland and Roseburg.

Some 300 locals were recruited as extras, including Walton, who cameos in an angry group gathered to confront the loggers. In prophetic counterpoint to his life after the encounter, he shouts from the crowd, "Yeah, Mike; where is Travis Walton?" □

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CONTRIBUTORS

THE LAST ESSAY FROM THE PEN OF Harlan Ellison, "Xenogenesis," created such an excitement in science fiction that the reverberations have yet to settle down. We expect much the same attention to be paid to this issue's newest brainchild from his pen. But that's to be expected when you're dealing with the writer whom the *Washington Post Book World* has called "one of the great living American short story writers," and the *Los Angeles Times* has called "the 20th Century Lewis Carroll." His shelves must have long ago buckled from the weight of his awards: 2 Edgars from the Mystery Writers of America, 3 Nebulas from the Science Fiction Writers of America, 4 Writers Guild of America Awards for Outstanding Teleplay, and 8½ Hugos.

Barclay Shaw has become one of the artists most associated with the words of Harlan Ellison. He has received three Hugo nominations for his work. He is currently at work on something a bit different for him—a three-dimensional construction that is a mixed media cover painting for *Heavy Metal* magazine.

As well as being a writer with work appearing in all of the major SF magazines, including the forthcoming *Full Spectrum 4* from Bantam Spectra, Ray Aldridge is a potter. In fact, he is a potter by profession, for he began molding pots before he began molding words. But he is better known for his Emancipator series of novels, which includes *The Pharaoh Contract*, *The Emperor of Everything* and *The Orpheus Machine*.

Vincent DiPate is well known as an artist in the S.F. field, but fewer people know he is a historian of S.F. art. He is currently working on a dream project of functioning as both art editor and the main contributor on art-related matters for a trilogy of genre art encyclopedias forthcoming next year from Prentice-Hall—the *Encyclopedia Galactica*, the *Encyclopedia Horrifico*, and the *Encyclopedia Fantastica*. His recent feature for the *San Francisco Examiner* on old monster movies titled "Return of the Rubber Monsters" proved so popular that

the newspaper has asked him to do a series of sequels. Not only will he get a chance to write about his favorite old films, but he'll get a chance at drawing his favorite monsters as well.



Ben Bova



Connie Hirsch

WHEN NOT LIKE THE PROJECTED forecast that Ben Bova has depicted for us in this issue, but there's no arguing with his credentials for speculating on the future. He is the author of over 75 science fiction and non-fiction books, is president emeritus of the National Space Society, and the former president of the National Space Institute. He was editor for both *Analog* and *Omsi*.

Damian Kilby has seen his fiction in print in *Universe* and *Journal Wired*. He has started figure drawing again after many years away from art, and finds that sketching has a relaxing effect on his writing. Eric T. Baker is at work on a story cycle about a band of travelers adrift in time. He is a graduate of the famed Clarion S.F. Writers Workshop.

Ron Miller is the co-author and illustrator of *The Grand Tour*, soon to be re-released from Workman. His magnum opus, *The Dream Machines*, a 725-page, 250,000 word history of S.F. art with over 1200 illustrations, will soon be out from Kreiger. His current dream project is his collaboration with writer Pamela Sargent on the female characters of science fiction.

Craig Shaw Gardner has recently stepped down as President of the Horror Writers of America, but then, he has seen enough of horror for one lifetime, as evidenced by his piece for us on some of the worst UFO movies of all time.

When not turning out superbly crafted short stories, Connie Hirsch works as a database applications programmer. In the past year she has made sales to *Nocturne*, *Fang*, and *Grails of the Night*, and has been hard at work on her novel *Charles Dickens Never Mentioned Werewolves*. Of her story this issue, she tells us that writing it allowed her to "feel a tiny bit more sympathy for Imelda Marcos... but just a tiny bit."

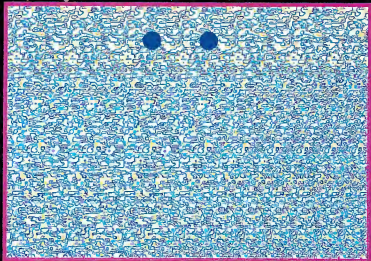


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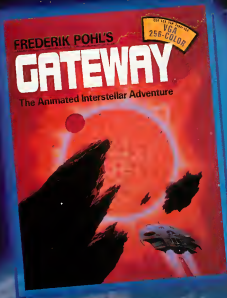
To see the 3D image above, diverge your eyes, as if looking at a faraway object. The two large dots will fuse, forming a third central dot. When the divergence is correct, slight, controlled variations in the placement of the random dots are perceived by the brain as depth cues. A shape will appear to float above a textured background. Some see the image in seconds. Others find it more difficult. If you can't see it, let someone else try. If they succeed, perhaps they can help you. Be sure to get the full explanation and more examples by writing for free information!

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